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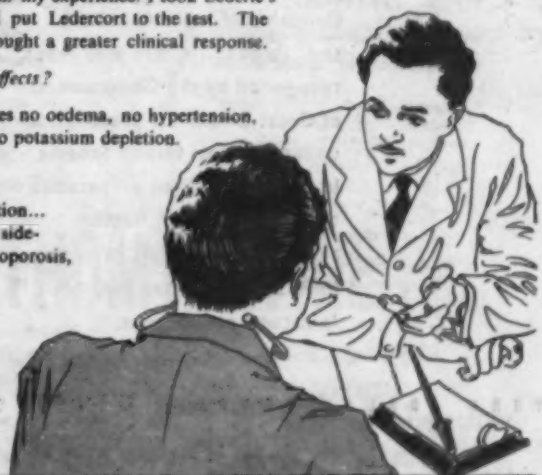

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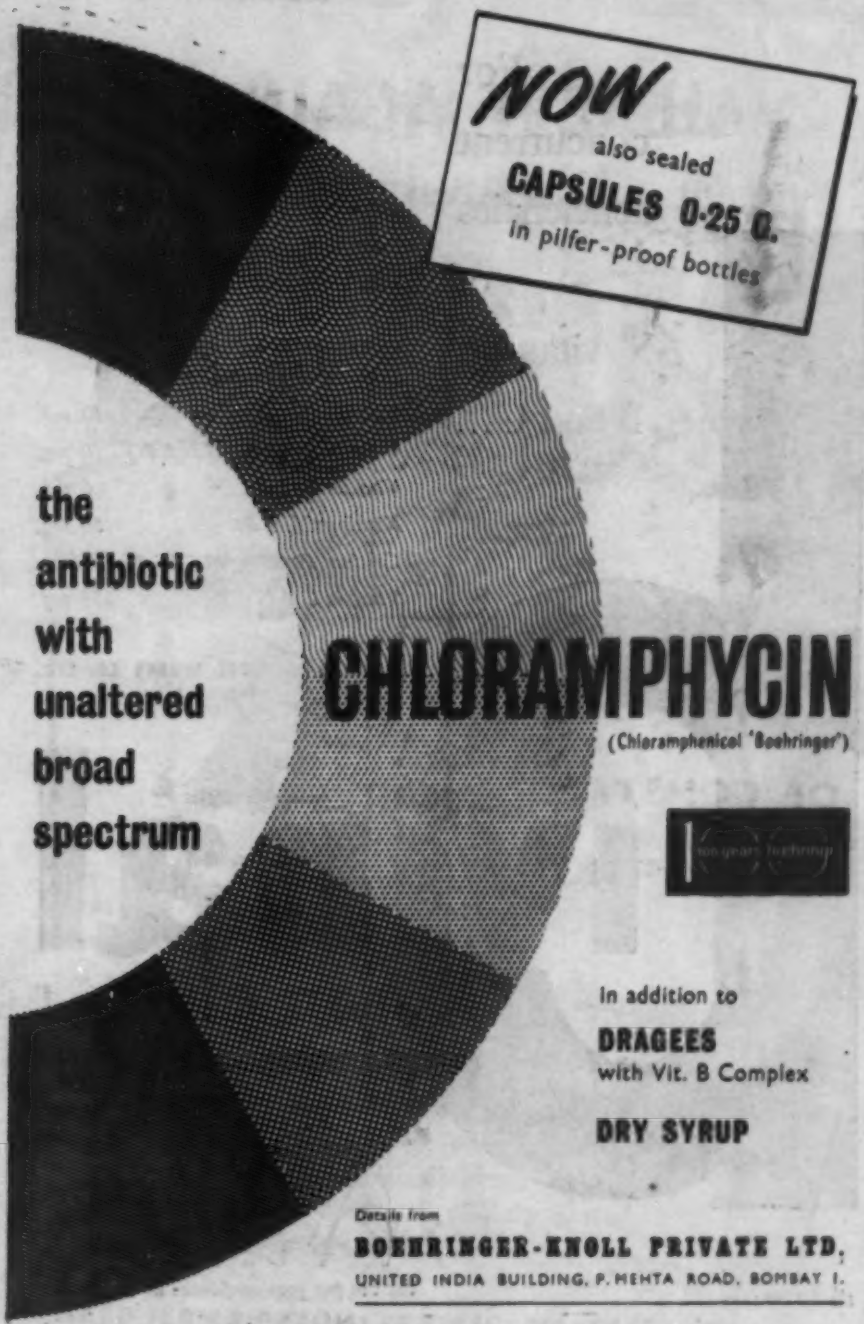

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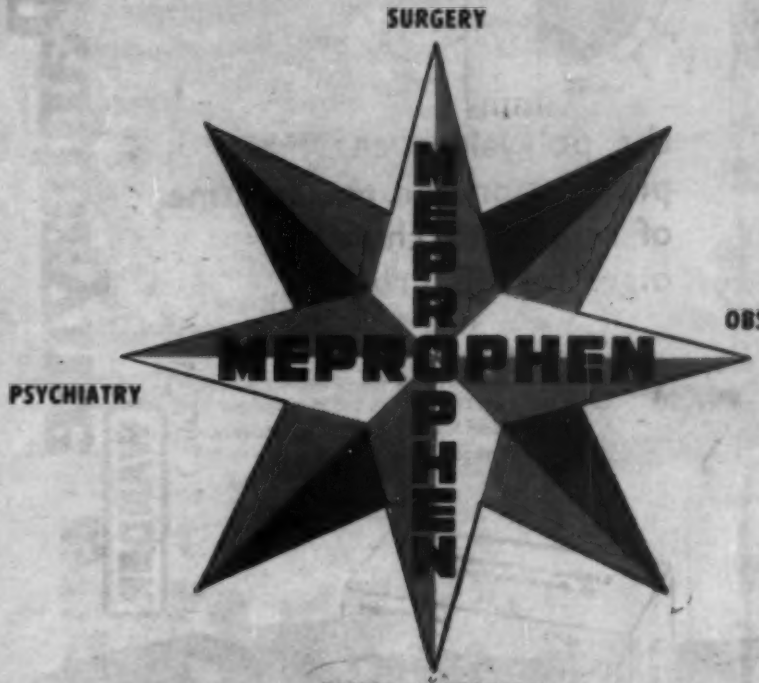

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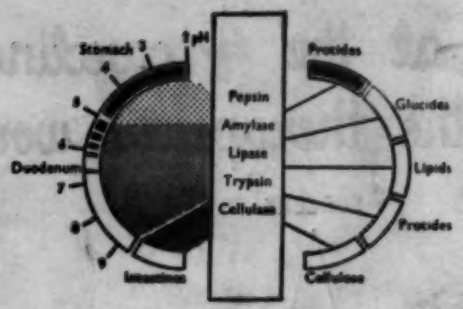

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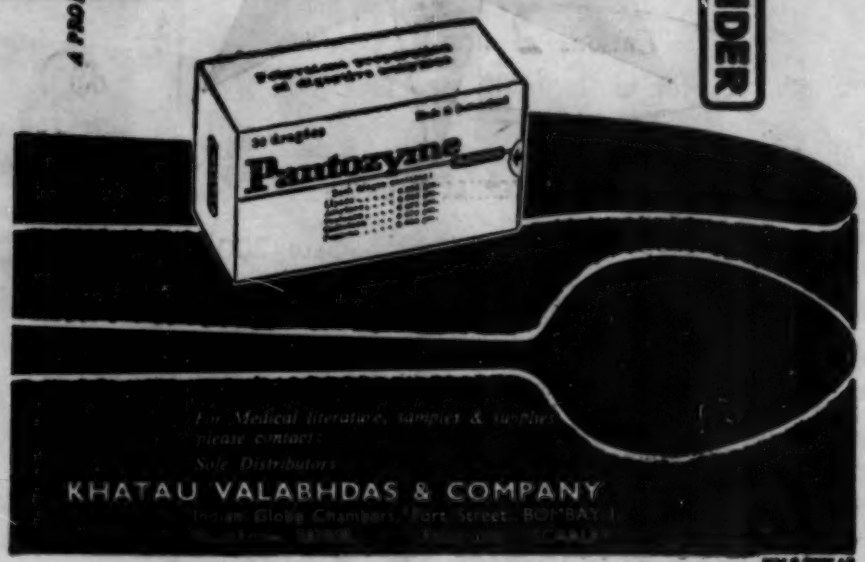

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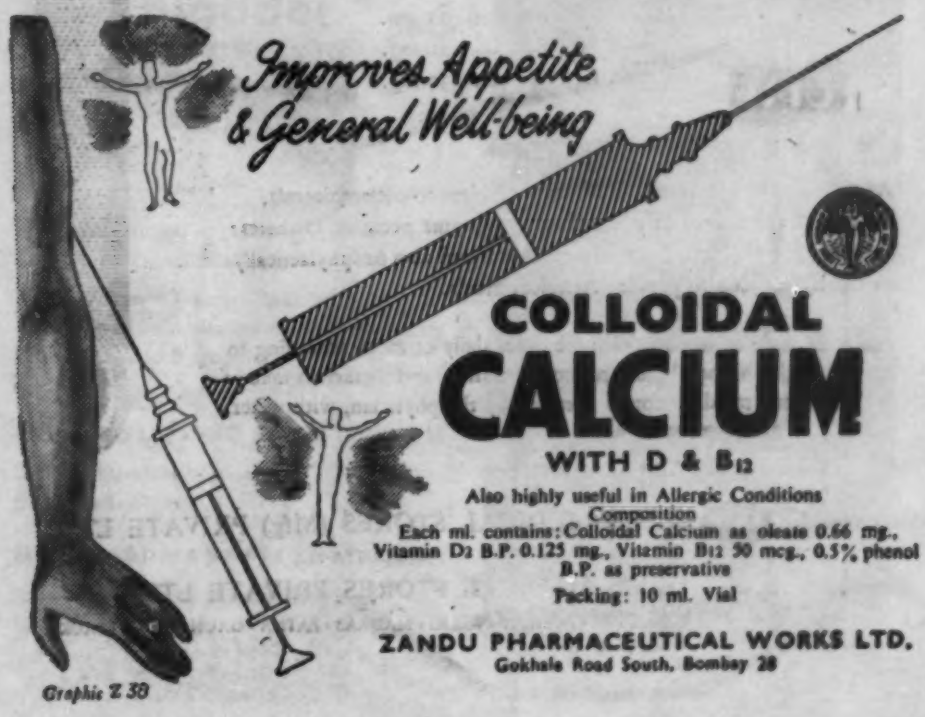

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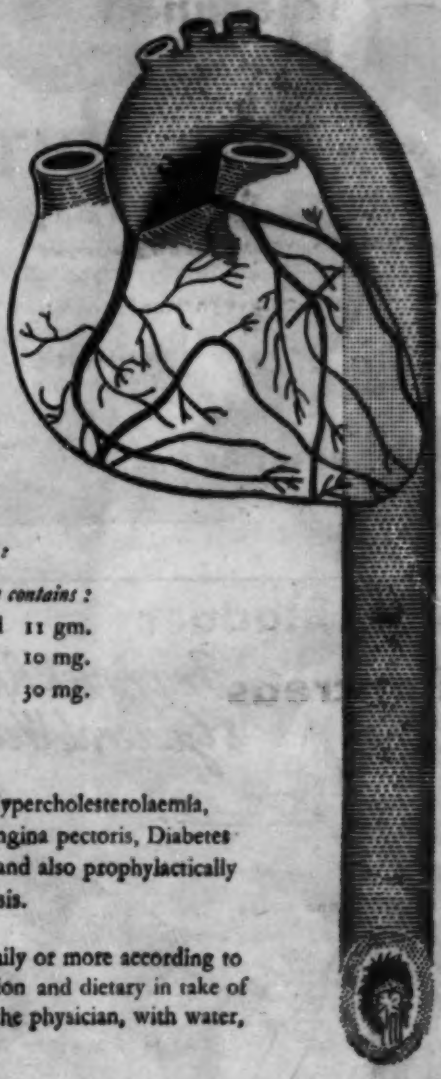

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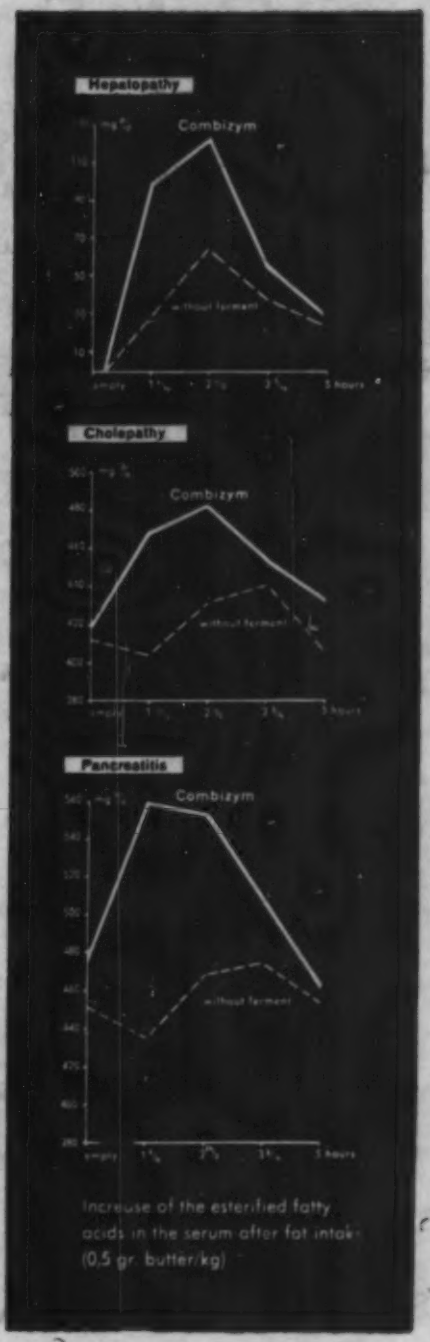

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ORIGINAL ARTICLES

ANAEMIA IN EXPERIMENTAL CIRRHOSIS OF THE LIVER

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Haematological changes in liver disorders particularly in cirrhosis of the liver have been extensively studied since the first recognition of anaemia by Hayem (1889) quoted by Wintrobe and Shumacker (1933). Large number of reports appearing in recent years show significant variations in the incidence, morphology and severity of anaemia by different workers (Berman *et al*, 1949 ; Jarrold and Vilter, 1949 ; Movitt, 1950 ; Jandl, 1955 ; Hall, 1956 ; Krasnow *et al*, 1957 ; Wilhelm *et al*, 1958). Various theories have been propounded to explain the mechanism involved in the production of anaemia, but no single factor so far, has been able to explain it fully.

For the exact elucidation of this complex problem of anaemia in cirrhosis of the liver, experimental studies have also been reported by Heath (1934), Shumacker and Wintrobe (1936), Higgins and Stasney (1935) and Heinle *et al* (1940).

The present study was undertaken to investigate the peripheral blood and bone marrow changes in albino mice in whom cirrhosis of the liver was induced by subcutaneous injections of carbon tetrachloride.

MATERIAL AND METHODS

Fifty-five adult albino mice weighing from 95 to 136 g. were put on a stock diet. Out of these 55 mice, 17 were kept as control while the remaining 38 were given biweekly subcutaneous injections of a mixture of pure carbon tetrachloride and liquid paraffin in equal parts in doses of 0·2 c.c./100 g. of body weight during the whole period of study of 16 weeks. After 4 weeks of injections, 2 mice were sacrificed every week till 16th week and a total of 26 mice were studied as 12 died during this period. The sacrifice was done 72 hours after the last injection of carbon tetrachloride. Blood was collected from the heart directly, and the liver tissue was obtained after abdominal incision. The femoral bone marrow smears were prepared by the technique of Vogel (1947). Two of the 17 control mice died during the period of study and the remaining 15 were sacrificed at the end of 16th week.

Red blood cell counts, haemoglobin content and packed cell volume determinations were carried out. The absolute values were calculated from the values of haemoglobin percentage, R.B.C. count and packed cell volume.

The differential cell count of the femoral bone marrow was studied after counting a total number of 500 cells. Liver sections were stained with H & E, reticulum and Mason's stains. The grading of cirrhosis was done in accordance with the criteria laid down by Wahi *et al* (1956).

TABLE 1—SHOWING ANALYSIS OF THE RESULTS OF EXAMINATION OF THE PERIPHERAL BLOOD IN NORMAL CONTROL ANIMALS AND IN ANIMALS AT VARIOUS GRADES OF LIVER CIRRHOSIS

Extent of liver damage	Haemoglobin g./%	R.B.C. count mill./c.mm.	P.C.V. %	M.C.V. $c\mu$	M.C.H. $\gamma\gamma$	M.C.H.C. %
Normal animals	13·5 ±1·87	6·71±1·27	41 ±2·58	61·1 ±2·43	20·3±1·4	33·2 ±1·97
Grade 1 cirrhosis	12·2 ±2·51	5·99±1·35	37 ±6·4	62·5 ±4·81	20·12±1·61	32·4 ±1·81
Grade 2 cirrhosis	10·37±2·16	5·25±1·06	36·2 ±4·73	71·2 ±17·2	19·8 ±1·6	27·7 ±5·6
Grade 3 cirrhosis	9·05±2·34	4·51±1·204	35·4 ±5·9	81·43±16·7	20·3 ±2·21	25·13±5·5
Grade 4 cirrhosis	8·75±2·53	4·5 ±1·43	30·25±0·95	92·35±21·7	19·5 ±1·27	22·2 ±6·03
Grade 5 cirrhosis	6·62±4·06	3·45±1·95	31·75±5·05	105 ±31·9	18·8 ±1·4	19·8 ±8·8

TABLE 2—SHOWING AVERAGE PERCENTAGE DISTRIBUTION OF THE MARROW CELLS IN CONTROL AND CIRRHOTIC ANIMALS AS A WHOLE AND AT VARIOUS GRADES OF CIRRHOSIS

Type of marrow cells	Control animals	Cirrhotic animals	Grade 1 cirrhosis	Grade 2 cirrhosis	Grade 3 cirrhosis	Grade 4 cirrhosis	Grade 5 cirrhosis
Neutrophils	24·7	19·8	22·6	16	19·8	20·25	19·5
Neutrophil staff cells ...	21·6	19·2	20·2	19·7	18·0	18·5	21·0
N. metamyelocytes ...	3·0	3·27	2·2	3·7	4·2	3·25	2·0
Ring cells	4·0	3·73	4·2	5·5	4·3	2·25	1·5
N. myelocytes ...	2·1	2·6	2·4	2·7	3·1	3·25	0·75
Promyelocytes ...	1·0	1·23	0·8	1·2	1·9	1·25	0·25
Eosinophils	1·7	1·5	3·0	3·0	0·44	1·25	0·75
Basophils	0·7	0·4	1·0	0·25	0·33	0·25	—
Blast cells	0·8	0·06	1·2	1·2	1·22	0·5	0·25
Erythroblasts	8·26	10·7	9·6	10·7	11·33	11·5	9·75
Normoblasts	24·5	32·3	27·2	31·5	31·8	33·75	39·0
Lymphocytes	2·9	2·08	3·6	1·7	1·33	1·75	2·5
Monocytes	0·4	0·15	—	0·5	0·22	—	—
Plasma cells	2·0	1·42	1·8	1·25	0·8	1·5	2·25
Kugelhaufen	1·6	0·6	0·4	0·25	0·9	0·75	0·25
M : E ratio	1·73 : 1	1·16 : 1	1·42 : 1	1·2 : 1	1·13 : 1	1·05 : 1	0·9 : 1

OBSERVATIONS

Peripheral blood examination—The results of peripheral blood examination in 15 control normal albino mice are given in Table 1. The histological picture of the liver of one of the normal animals is shown in Fig. 1 (*vide* Plate).

In the 26 albino mice which were studied from 4th to 16th week, the extent of liver damage was classified into 5 grades depending upon the amount of fibrosis and atrophy of the liver cells as shown in Figs. 2, 3, 4, 5 and 6 (*vide* Plate). The results of peripheral blood examination were also analysed according to the severity of cirrhosis (Table 1).

Haematological findings show that out of 26 mice, 19 had anaemia, i.e., haemoglobin below 12·5 g. per cent (the lowest nomal limit). The incidence of anaemia was found to be 73 per cent. The incidence of anaemia in 1, 2, 3, 4 and 5 grades of cirrhosis was 40 per cent, 75 per cent, 88·8 per cent, 75 per cent and 75 per cent respectively.

The severity of anaemia was very variable. Eight animals (30·7 per cent) showed mild anaemia (haemoglobin between 9 and 12 g. per cent), 8 (30·7 per cent) were moderately anaemic (haemoglobin between 6 and 9 g. per cent) and 3 (11·6 per cent) were severely anaemic

(haemoglobin below 6 g. per cent). Anaemia was found to progress with increasing degrees of cirrhosis.

Morphology of anaemia—Morphologically anaemia was macrocytic or normocytic. Fifteen animals (57·7 per cent) out of 26 showed macrocytic anaemia, having M.C.V. above 65 $c\mu$ (highest normal value). Four animals (15·3 per cent) showed normocytic anaemia and the remaining 7 (27 per cent) had no anaemia. No animal showed microcytic type of anaemia.

Severity of cirrhosis and degree of macrocytosis—It can be observed from Table 1 that the degree of macrocytosis as judged from the values of M.C.V. increased as the cirrhosis progressed. The red blood cells as seen in film preparations also showed increasing macrocytosis as cirrhosis advanced.

Bone marrow examination—The results of the bone marrow examination both in control animals and cirrhotic animals as a whole and at various stages of cirrhosis were compared (Table 2) and the following observations were made.

Marked hyperplasia of the erythroid series of cells was observed. It was found that the mean percentage distribution of the normoblasts increased as the cirrhotic process progressed and hence erythroid hyperplasia was more marked in animals of grade 5 cirrhosis.

M : E ratio decreased significantly in cases of cirrhotic animals as a whole. It, however, also decreased in parallel with the extent of cirrhotic process.

Discussion

Anaemia is a common finding in cirrhosis of liver. Its incidence, severity and morphology have, however, been reported differently in experimental and clinical studies by various workers.

In the experimental studies carried out by Heath (1934), Shumacker and Wintrobe (1936) and Higgins and Stasney (1935), most of the animals had developed anaemia ; the actual incidence, however, is not known. In the present study, anaemia was observed in 73 per cent of albino mice. Greater variations in the incidence of anaemia have been observed in human cases varying from 42 per cent reported by Rosenberg (1936) to 100 per cent reported by Huang and Wang (1949).

While 27 per cent of the mice during present study had haemoglobin above the normal minimum of 12·5 g. per cent, 61·4 per cent had developed mild to moderate degree of anaemia and only 11·6 per cent had severe anaemia. Shumacker and Wintrobe (1936) reported similar findings in their experimental study on dogs and rabbits. Our findings are at variance with those of Stasney and Higgins (1936) who reported greater frequency of severe degree of anaemia in experimental animals. Shumacker and Wintrobe 1936) have suggested that the production of cirrhosis by carbon tetrachloride inhalations, as carried out by Stasney and Higgins (1936), may affect the extent of liver cirrhosis and thus may modify the degree of anaemia.

The degree of severity of anaemia was observed to increase correspondingly with the extent of liver damage in the present series (Table 1). Similar observations have been reported in experimental animals by Shumacker and Wintrobe (1936) and Higgins and Stasney (1935).

Morphologically macrocytic and normocytic anaemia were observed in our animals. The percentage distribution of these types of anaemia had been a matter of wide variation. While we observed macrocytic anaemia in 57·7 per cent of animals, Shumacker and Wintrobe (1936) observed significant macrocytosis only in 34·1 per cent and Higgins and Stasney (1935) observed it in most of their animals. The significant degree of macrocytosis was observed after extensive and prolonged damage of the liver and this observation is in confirmation with that of Shumacker and Wintrobe (1936).

The observation of the bone marrow changes in the form of increased erythropoietic response and its direct relation with the extent of liver damage has been in confirmation with that of Higgins and Stasney (1935) in their experimental study. This preponderance of erythropoietic element in the bone marrow can be explained on the basis of compensatory hyperplasia as a result of increased demand on haemopoietic tissue consequent on anaemia resulting from liver dysfunction.

It is an important observation that the anaemia occurred only in animals in which cirrhosis was induced and the former progressed as the latter increased in its severity. This seems to be a pointer to the possibility that the anaemia was secondary to liver dysfunction. The question of carbon tetrachloride causing anaemia is ruled out due to the fact that bone marrow was hyperplastic in all of the animals and different morphological forms of anaemia were noted. Bone marrow examination did not reveal megaloblastic response typical of pernicious anaemia in any of the animals, showing therefore, that the anaemia was not related in any way to the defect in the metabolism of antianaemic principle as suggested long ago by Wintrobe and Shumacker (1933).

The macrocytosis in liver dysfunction seems, therefore, to be due to some metabolic defect other than deficiency of antianaemic principle.

Summary

Anaemia has been studied experimentally in 26 albino mice in whom cirrhosis was gradually induced by carbon tetrachloride injections. Fifteen normal control animals have also been studied.

The incidence of anaemia was 73 per cent and out of these 57·7 per cent of the animals had macrocytic and 15·3 per cent had normocytic anaemia. No animal had microcytic anaemia. The macrocytic anaemia and the degree of anaemia ran parallel with the extent of liver damage. Most of the animals (61·4 per cent) showed moderate or mild anaemia.

Bone marrow showed erythroblastic activity. No megaloblastic response was seen and hence deficiency of antianaemic principle in its causation was ruled out.

References

Berman, L., Axelrod, A. R., Horan, T. N., Jacobson, S. D., Sharp, E. A. and Vonderheide, E. C.—*Blood*, **4**: 511, 1949.

Hall, C. A.—*J. Lab. & Clin. Med.*, **48**: 345, 1956.

Heath, C. W. (1934)—Quoted by Kracke, R. R., Diseases of the Blood, 1941, 2nd Edn., Lippincott, Philadelphia, p. 177.

Heinle, R. W., Castle, W. B. and Rose, F. A.—*Folia Haemat.*, **64**: 174, 1940.

Higgins, G. M. and Stasney, J.—*Ibid*, **54**: 129, 1935.

Huang, K. W. and Wang, H. W.—*Arch. Int. Med.*, **84**: 958, 1949.

Jandl, J. H.—*J. Clin. Invest.*, **34**: 390, 1955.

Jarrold, T. and Vilter, R. W.—*Ibid*, **28**: 286, 1949.

Krasnow, W. R., Walsh, R. J., Hyman, J., Zimmerman, H. J. and Heller, P.—*Arch. Int. Med.*, **100**: 870, 1957.

Movitt, E. R.—*Blood*, **5**: 466, 1950.

Rosenberg, D. H.—*Am. J. M. Sc.*, **192**: 86, 1936.

Shumacker, H. B. (Jr.) and Wintrobe, M. M. (1936)—Quoted by Lichtman, S. S., Diseases of the Liver, Gall Bladder and Bile Ducts, 1942, Lea & Febiger, Washington, p. 230.

Stasney, J. and Higgins, G. M.—*Folia Haemat.*, **55**: 93, 1936.

Vogel, M.—*Am. J. M. Sc.*, **213**: 456, 1947.

Wahi, P. N., Tandon, H. D. and Bharadwaj, T. P.—*A.M.A. Arch. Path.*, **62**: 200, 1956.

Wilhelm, E., Levy, J. G., Roger, S. and Metzger, H.—*Excerpta Medica* (Int. Med.), **12**: 501, 1958.

Wintrobe, M. M. and Shumacker, H. S. (Jr.)—*Bull. Johns Hopkins Hosp.*, **52**: 387, 1933.

THE PROBLEM OF PREMATURITY*

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Prematurity is the commonest cause of neonatal death. The average birth-weight of the Indian newborn infant is less than that in other countries like England, U.S.A., etc. So if we were to adopt the international definition of prematurity, we are likely to have too high an incidence of prematurity.

In this paper, mainly the obstetric aspects of our data of the year 1956 at the Lokmanya Tilak Municipal General Hospital, Sion Bombay, are analysed, and the various facets of the problem of prematurity are discussed.

Material

At the Lokmanya Tilak Municipal General Hospital, Sion, Bombay, we get both registered and unregistered cases, mainly from the northern part of Greater Bombay and from the area about 30 miles surrounding Bombay. People who come to us, mainly consist of the poor class with an income of Rs. 0-100 per month and a few from the middle class with an income upto Rs. 500/- per month.

The antenatal care is mainly limited to the detection and treatment of the various medical and obstetric complications.

Spontaneous vaginal delivery is preferred for all cases. Table 1 gives an account of the operative deliveries in the premature babies weighing less than 5 lb. 8 oz. (2,500 g.)—4·557 per cent.

Premature babies are given an oil bath about an hour after delivery. The babies are clothed lightly and are kept in a separate room. There are no separate or specialised attendants for these babies. Ours is one of the over-congested hospitals ; and hence the babies are usually discharged, if there condition is not serious, as soon as mothers are fit to leave. Usually the babies are discharged on the 4th or the 7th day after birth. Babies are weighed both at the time of birth and also when they are discharged from the hospital.

The record of the obstetric unit for the year 1956 is used for the analysis.

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* Based on a paper read at the Medical Staff Society, Municipal General Hospital, Sion, Bombay, 1957.

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TABLE 1—SHOWING ANALYSIS OF OPERATIVE DELIVERIES IN PERMATURE BABIES

Birth weight in lb.	Operative interference in different maternal and foetal conditions													Perinatal death	
	Pre-eclampsia	Eclampsia	Placenta praevia	Accidental haemorrhage	Cephalopelvic disproportion	Uterine inertia	Hydrocephalus	Abnormal presentation	Intrauterine foetal death	Previous caesarean section (as only indication)	Cervical dystocia	Rupture uterus	Miscellaneous	No.	Per cent
2⅛-2½	—	—	—	I	—	—	—	—	—	—	—	—	—	1	100·0
2⅛-2½	—	—	In.	I	—	—	—	In.	—	—	—	—	—	3	100·0
2⅛-2½	—	—	—	I	—	—	—	In.	—	—	—	—	—	2	100·0
2½-3	—	—	—	I	—	—	—	—	—	—	—	—	—	1	100·0
3⅛-3½	—	I	In.	—	—	—	—	—	I	—	—	—	—	3	66·66
3⅛-3½	—	—	—	I	—	—	—	—	Cr.	—	—	—	—	2	50·00
3⅛-3½	I	I	In.	3 I	—	—	—	2 In.	—	—	—	—	—	8	87·5
3½-4	—	—	—	—	—	—	In Cr.	2 In. F	—	—	C.S.	—	—	5	60·0
4⅛-4½	F	I	—	—	—	—	Cr.	In.	—	—	—	—	—	4	50·0
4⅛-4½	F	—	—	I	—	F	Cr.	2 In.	2 Cr.	—	—	—	—	8	50·0
4⅛-4½	2 I	F	C.S.	2 I	C.S.	F	—	4 In.	Cr.	—	—	—	F	14	42·85
4½-5	—	—	—	—	Cr.	3 F	—	F	—	—	C.S.	—	F	7	28·57
5⅛-5½	—	I	C.S.	2 I	Cr. 3 C.S.	2 F	Cr.	In.	—	—	—	—	—	12	25·00
5⅛-5½	—	3 F	I	—	C.S.	3 F	—	F, In. I	—	F	—	S. H.	—	13	25·00
Total	5	8	6	13	7	10	4	19	5	1	2	1	2	83	51·81
Over 5½	5 F	3 F 2 I	4 C.S. 1 I 2 In.	2 I	4 F 23 C.S. 2 Cr.	61 F 6 C.S.	Cr.	6 In. 18 F 10 C.S.	2 Cr. 2 I	2 C.S.	5 C.S.	4 S.H.	F	100	15·00

I = Induction of labour by artificial rupture of membranes.
In. = Internal podalic version.
F = Forceps.
C.S. = Caesarean section.
Cr. = Craniotomy.
S.H. = Subtotal hysterectomy.

RESULTS

1. There were 461 abortions during the year 1956. Table 2 shows the frequency distribution of the birth-weights of the 'viable' babies. The distribution is a normal curve with skewness to the right. The mean birth-weight is 5 lb. 12 oz. with the standard deviation of 19·32 oz.

About seventy-five per cent of viable newborn infants falls within once the standard deviation around the mean. Mean − 1 × standard deviation = 4 lb. 8·7 oz. The incidence of the babies weighing 5 lb. 8 oz. or less at birth is 33·08 per cent (1·566 per cent of these were induced labours).

The incidence of the babies weighing 4 lb. 9 oz. or less at birth is 13·8 per cent. Perinatal and neonatal death rates of the babies having birth weight between 4 lb. 10 oz. and 5 lb. 8 oz. are not significantly different from those of the babies having birth-weight of more than 5 lb. 8 oz. (difference in the perinatal rates—1·664 per cent; standard error—0·9842; difference in the neonatal rates—0·546 per cent, standard error—0·4135).

2. Perinatal mortality for each weight group is shown in Table 3. Perinatal death rate for twin premature babies is not significantly higher than that for the premature babies of single pregnancies (difference in the perinatal mortality rates—7·55 per cent; standard error—4·314).

3. Table 4 shows the antenatal and obstetric factors in case of premature babies and a comparison with those in full-term infants. In 72·65 per cent of cases of prematurity, none of the factors mentioned was present. These complications are more frequent in pregnancies which ended prematurely (67·10 per cent) than in those which went to term (32·90 per cent).

4. Alteration in the weight of the premature babies during the neonatal period compared to their birth-weight is given in Tables 5A and 5B. Birth-weight is only one of the factors governing the alteration in the weight of the baby during

TABLE 2—SHOWING ANALYSIS OF BIRTH-WEIGHT OF THE VIABLE NEWBORN INFANTS DURING THE YEAR 1956 AT MUNICIPAL GENERAL HOSPITAL, SION

	Birth-weight in lb.												Total
	2 1/16-2 1/8	2 2/16-3	3 1/16-3 1/8	3 2/16-4	4 1/16-4 1/8	4 2/16-5	5 1/16-5 1/8	5 2/16-6	6 1/16-6 1/8	6 2/16-7	7 1/16-7 1/8	7 2/16-8	8 1/16-8 1/8	
No. of cases	51	77	91	152	283	425	743	970	981	664	368	153	60	5018

Mean—5 lb. 12 oz. Standard deviation—19·32 oz.

TABLE 3—SHOWING ANALYSIS OF PREMATURE INFANTS DURING THE YEAR 1956 AT THE MUNICIPAL GENERAL HOSPITAL, SION

	Birth-weight in lb.															Total
	2 1/16-2 1/8	2 2/16-2 1/8	2 2/16-2 1/8	2 1/8-3	3 1/16-3 1/8	3 2/16-3 1/8	3 2/16-3 1/8	3 1/8-4	4 1/16-4 1/8	4 2/16-4 1/8	4 2/16-4 1/8	4 1/8-5	5 1/16-5 1/8	5 2/16-5 1/8		
Single live-born infants ...	11	13	13	25	26	29	42	57	98	137	180	206	336	383		1565
Infants born in multiple pregnancy ...	4	2	4	5	6	8	14	14	8	13	8	6	6	4		102
Total live-born infants ...	15	15	17	30	32	37	56	71	106	150	197	212	342	387		1667
Stillbirths ...	13	8	14	16	13	9	11	14	12	15	8	8	6	9		155
Neonatal deaths ...	13	10	9	15	11	13	16	15	14	7	6	4	4	5		142
Perinatal deaths ...	26	18	23	31	24	22	27	29	26	22	14	12	10	13		297
Total births ...	28	23	31	46	45	46	67	85	118	165	205	220	348	395		1822
Neonatal death-rate per 1,000 live births	846·8	666·7	529·4	500·0	343·8	351·4	285·7	211·3	132·0	46·67	30·46	18·87	11·69	12·86		85·19
Perinatal death-rate per 1,000 total births	928·5	782·7	741·8	673·9	533·3	478·2	403·0	341·2	220·4	133·3	68·28	54·55	28·74	32·91		163·0

the neonatal period; and hence, correlation between the change in weight and the birth-weight is little, if any.

DISCUSSION

Definition of prematurity—Taking a baby's birth-weight involves least of the fallacies. Birth-weight is the best, single measure (Ellis, 1951) of prematurity, though its following limitations are wellknown:

(*i*) Babies of the same birth-weight do not always exhibit the same degree of maturity and (*ii*) babies born of multiple pregnancies and those born of toxaemic mothers may be more mature than what their birth-weights indicate; conversely, babies of diabetic mothers are relatively less mature compared to their birth-weight.

The World Health Organization (1948) has defined prematurity as follows: "For the purpose of this classification, an immature infant is a live-born infant with a birth-weight of 5 lb. 8 oz. (2,500 g.) or less, or specified as immature. In some countries, however, this criterion will not be applicable. If weight is not specified, a live-born infant with a period of gestation of less than 37 weeks or specified as 'premature' may be considered as the equivalent of an immature infant for purposes of this classification."

What should constitute the limit of viability is a question. A still-born baby, with duration of gestation of 22 weeks or more, and length of at least 35 cm. should be present to consider a case of intrauterine death of a viable baby (Pomerence and Steiner, 1950).

Henderson (1945) proposes 2·75 lb. (i.e. half the defined maximum weight of premature baby) as the limit of viability. Axim (1931) reports survival of an Indian baby weighing at birth 1 lb. 10 oz. In this paper, I have taken 2 lb. 1 oz. as the limit of viability for the purpose of analysis because of 100 per cent perinatal death rate in babies weighing 2 lb. or less.

One should resist the temptation of jumping at the definition of prematurity on isolated considerations of an individual series (e.g. my own data suggest the definition of premature baby on birth-weight of 4 lb. 9 or. or less).

In adopting the definition of prematurity for a race or a country, a committee consisting of obstetricians, pediatricians and statisticians should consider the following factors:

1. Frequency distribution of the birth-weights of the babies. 2. Mortality and morbidity of the

TABLE 4—SHOWING ANALYSIS OF THE ANTENATAL AND OBSTETRIC FACTORS IN PREMATURITY

Antenatal and obstetric factors	Birth-weight in lb.														Total	Incidence of prematurity (per cent)	Perinatal deaths (per cent) in premature infants	Neonatal deaths (per cent) in premature infants
	2 1/16-2 1/8	2 3/16-2 1/4	2 5/16-2 3/8	2 7/16-3	3 1/16-3 1/8	3 3/16-3 1/4	3 5/16-3 3/8	3 7/16-4	4 1/16-4 1/8	4 3/16-4 1/4	4 5/16-4 3/8	4 7/16-4 1/2	4 9/16-5	5 1/16-5 1/8	5 3/16-5 1/4				
Pre-eclampsia ...	—	6	6	4	5	8	11	8	9	12	17	14	7	9	116	70·31	18·96	7·761
Eclampsia ...	—	—	2	—	—	2	1	—	—	1	2	—	3	4	15	62·50	53·33	33·33
Anaemia (less than 8·0 g. %) ...	2	2	2	—	1	2	2	6	3	5	5	4	4	2	40	81·64	17·5	2·5
Accidental haemorrhage ...	2	4	5	3	3	3	5	3	2	1	5	2	5	5	48	80·0	50·26	4·167
Placenta praevia ...	—	2	—	1	1	—	1	1	—	—	2	2	1	2	13	76·47	61·55	23·07
Pulmonary tuberculosis ...	—	—	—	1	1	2	5	1	1	—	3	1	1	1	16	88·89	18·75	12·5
Heart disease ...	—	1	—	—	—	—	—	—	—	—	1	—	—	1	3	66·66	—	—
Syphilis ...	2	—	1	—	—	1	2	2	2	1	1	1	1	3	17	94·43	52·94	—
Acute illness of mother ...	—	—	—	3	1	2	1	2	1	1	2	—	2	—	15	88·24	13·33	6·67
Breech ...	4	6	3	3	2	5	8	6	6	14	9	6	8	7	87	70·73	35·72	20·69
Persistent occipito-posterior ...	—	—	—	—	—	1	—	1	1	—	—	2	—	—	5	26·31	(2)	—
Face ...	—	—	—	—	—	—	—	—	—	1	—	—	—	1	2	14·29	—	—
Brow ...	—	—	—	—	—	—	—	—	—	—	—	1	1	—	2	33·33	(1)	(1)
Transverse ...	—	—	1	2	1	—	2	1	1	1	4	—	1	1	15	71·44	66·67	6·67
Multiple pregnancy	4	2	4	5	6	8	14	14	8	13	8	6	6	4	102	88·69	23·53	9·804
Prolapse of cord ...	—	1	1	—	—	1	1	2	2	1	1	1	4	3	18	66·67	61·25	1·666
Prolapse uterus ...	—	—	—	—	—	—	—	1	2	1	—	—	—	—	4	57·15	—	—
Hydramnios ...	—	1	—	1	2	1	—	1	—	4	2	—	2	—	13	70·73	30·76	15·38
Congenital anomaly	—	—	—	—	1	—	—	1	3	5	2	1	1	4	18	64·28	44·44	27·77
Asphyxia neonatorum	—	—	—	—	—	2	3	3	4	1	3	5	5	5	31	43·66	?	?
Compound presentation	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—

Note—There were 7 twin pregnancies with one mature and one premature child; one case of triplets. Figures in parentheses give the actual number of deaths, the numbers being too few to be computed into percentage. It was not possible to assess deaths in asphyxia neonatorum.

TABLE 5A—SHOWING ALTERATION IN WEIGHT OF THE PREMATURE BABIES 3-5 DAYS (AVERAGE 4 DAYS) AFTER BIRTH

Birth weight in lb.	Weight loss of birth-weight in per cent													No change in weight	Weight gain of birth-weight in per cent												Total
	14 & over	−13	−12	−11	−10	−9	−8	−7	−6	−5	−4	−3	−2		−2	−3	−4	−5	−6	−7	−8	−9	−10	−11	−12	−13	14 & over	
2¼-2½	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
2⅝-2¾	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
2¾-3	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	3
3⅛-3½	—	—	1	—	2	—	1	—	1	—	1	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	2	10
3⅝-3¾	—	—	—	2	—	2	—	—	—	—	2	—	4	1	1	—	1	—	1	—	—	—	—	—	—	—	—	14
3⅞-3¼	3	—	—	—	1	1	—	4	—	1	4	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16
3¾-4	3	—	—	3	2	—	2	—	—	1	1	—	6	5	2	—	1	1	—	—	—	—	—	—	1	—	—	28
4⅛-4½	—	—	1	2	—	1	2	—	9	7	—	6	2	2	5	1	—	—	3	—	—	—	—	1	—	—	—	42
4⅜-4½	1	—	3	—	4	7	4	—	12	7	—	9	10	8	3	3	—	1	2	—	—	—	—	—	—	—	2	76
4⅝-4¾	1	—	2	1	3	—	7	5	9	—	15	15	15	7	1	2	1	—	—	—	1	—	1	—	—	—	—	86
4¾-5	1	2	—	—	6	3	5	9	—	8	9	9	9	16	2	3	1	1	—	—	1	—	—	—	—	1	—	86
5⅛-5½	—	—	2	4	2	2	6	—	9	16	15	30	17	17	3	3	3	5	1	—	—	2	—	—	—	—	—	137
5⅝-5¾	1	—	—	—	1	—	2	4	3	4	11	7	9	11	2	4	4	—	—	—	—	—	—	1	—	—	1	65
Total	10	2	10	12	21	16	29	22	43	45	58	76	74	68	20	17	11	8	8	—	2	2	1	2	1	1	6	565

Coefficient of correlation = −0·3228 Standard error = 0·04210

TABLE 5B—SHOWING ALTERATION IN WEIGHT OF THE PREMATURE BABIES 6-8 DAYS (7 DAYS) AFTER BIRTH

Birth weight in lb.	Weight loss of birth-weight in per cent													No change in weight	Weight gain of birth-weight in per cent												Total
	14 & over	−13	−12	−11	−10	−9	−8	−7	−6	−5	−4	−3	−2		−2	−3	−4	−5	−6	−7	−8	−9	−10	−11	−12	−13	14 & over	
Up to 2¼	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	2
2⅜-2½	2	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
2¾-3	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	2
3⅛-3½	1	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
3⅝-3¾	1	—	—	—	—	2	—	—	—	—	—	—	—	1	—	—	3	—	—	—	—	—	—	—	—	—	—	7
3⅞-3¾	—	—	—	—	—	1	—	1	—	2	1	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	7
3¾-4	2	1	—	—	—	—	—	—	—	—	1	—	1	1	1	—	—	—	—	1	—	—	—	—	—	—	1	9
4⅛-4½	2	—	—	1	—	—	—	—	6	5	—	1	1	3	—	—	—	—	—	—	—	—	—	—	—	—	—	19
4⅜-4½	—	—	1	—	2	3	—	—	2	1	—	—	2	4	1	—	—	—	1	—	1	1	—	—	—	—	1	20
4⅝-4¾	—	—	—	—	—	—	6	2	2	—	1	5	4	3	—	—	1	—	1	—	1	—	1	—	—	—	—	27
4¾-5	—	—	—	—	—	—	—	3	—	3	1	3	2	6	—	3	—	—	—	1	—	—	—	—	1	—	—	23
5⅛-5½	4	—	—	—	—	—	1	—	1	6	5	3	2	2	3	3	4	5	—	—	1	1	—	—	—	—	1	42
5⅝-5¾	—	1	—	1	—	—	—	—	2	1	1	2	3	—	4	—	4	—	—	—	1	—	1	—	—	—	—	21
Total	13	3	1	2	2	6	7	6	14	18	10	15	17	21	10	6	12	5	2	2	4	2	3	0	1	0	3	185

Coefficient of correlation = −0·1263 Standard error = 0·07372

newborn according to the duration of gestation and the birth-weight. 3. Correlation between the physiology of the newborn infant with the duration of gestation and birth-weight. 4. Rate of growth of the foetus in utero. 5. Obstetric considerations—size of the baby in relation to the maternal pelvis.

Maternal pelvis in India (Sen, 1953) differs in size and shape from that in certain other countries like U.S.A., England, etc. and so the babies liable to have obstetric trauma due to foetopelvic disproportion will be less in weight in India.

When the definition of prematurity for each country is determined, the comparison of the data of various countries is facilitated by expressing the birth-weights of babies in terms of percentage (or other suitable mathematical terms) of the defined boderline between the mature and immature babies.

Incidence of prematurity—In the present series, the incidence of prematurity is 36·31 per cent. In U.S.A. and England, the incidence is reported between 4·8 and 7·8 per cent. The incidence is 6·58 per cent inspite of antenatal care (Bookstave, 1951). The incidence is supposed to be higher in the primigravida, about one and a half times higher than in the multigravida (Pomerence and Steiner, 1950). Thus, in the primigravida, the incidence of prematurity is reported as 8·6 per cent (Drillien, 1957) (5·9 per cent when emergency cases, illegitimate cases and multiple births are excluded).

Prematurity occurs more frequently in the lower socio-economic group than in the higher one (Baird *et al*, 1953).

The incidence of prematurity is greater in multiple pregnancies (Drillien, 1957) (7·0 per cent) than in single pregnancies (6·1 per cent). (In my series 88·69 per cent and 31·77 per cent respectively).

Aetiology—The aetiology of prematurity is unknown in 32·7-70 per cent cases (average 50 per cent of cases ; in my series 72·65 per cent of cases). Amongst the known aetiological factors the important ones are maternal diseases—acute and chronic (about 24·6 per cent), multiple pregnancies (10·0-17·4 per cent), antepartum haemorrhage (3·1-17·0 per cent), placenta praevia (10·0 per cent), accidental haemorrhage (7·0 per cent) and congenital malformations (1·6 per cent).

Stillbirth and prematurity have similar incidence of maternal factors. Thirty-three per cent of prematurity and 75 per cent of stillbirths are associated with illness or obstetric complications. Socio-economic factors are more important in prematurity than in stillbirths (Conway, 1951).

The incidence of prematurity in various maternal complications is as follows (Drillien, 1957). Toxaemia—15·6 per cent, antepartum haemorrhage—34·3 per cent, hydramnios—37·8 per cent, chronic conditions like cardiac disease, syphilis, anaemia—10·2 cer cent. When there were no maternal complications, the incidence of prematurity was 4·5 per cent.

The other known aetiological factors are premature rupture of the membranes, incompetent cervix, erythroblastosis foetalis, intrauterine infections, operative and other traumas, external version, fibromyomata, psychological shock, etc.

Prevention of prematurity—At present prevention of prematurity is possible to some extent by better antenatal care. The incidence of prematurity can also be reduced by non-specific measures such as spacing the family, avoiding pregnancy at the extremes of childbearing age, giving nutritional supplement to the expectant mother, and giving relief from work to the expectant mothers by suitable laws for the employees and by home help system.

Management of premature labour—For management of premature labour episiotomy and low forceps application have been advocated to increase the foetal salvage in cases of premature onset of labour. Episiotomy avoids compression of head at the pelvic floor ; but we do not apply low forceps unless the second stage is unduly prolonged. Uterine inertia and cephalopelvic disproportion requiring operative interference is relatively uncommon in cases of labour starting prematurely (Tables 1 and 4).

In the aetiology of intracranial haemorrhage in premature infants anoxia is more important than birth-trauma. Problem of prevention of intranatal foetal anoxia is not satisfactorily solved ; maternal anoxia should be prevented and treated ; use of oxytocics, like pitocin drip, should be avoided or used only judiciously. Injection of vitamin K should be given to the mother. The cord should be clamped after the cessation of its pulsations.

Routine use of analgesics and anesthetics is uncommon in India. In operative delivery, the conduction anaesthesia is preferred to general anaesthetics.

The care of the premature baby starts as soon as it is born ; prevention and treatment of anoxia is of the first importance. The airway should be cleared ; aspiration of the stomach contents may be necessary and oxygen, should be given according to requirements.

Other principles of care are minimum handling of the newborn, aseptic precautions, treatment of

infections and maintenance of nourishment. Temperature in most parts of India is what people in colder countries would like to maintain in their premature baby units, viz., 80-85°F. In fact, in some parts of India, the room requires to be cooled to this temperature. Extra humidity advocated for the premature baby may be maintained by keeping a boiling steam kettle in the room.

Recently, withholding feeds to the premature babies for about 48-72 hours has been advocated (Apley, 1954), i.e., till the respiration is well-established ; otherwise, there is danger of aspiration of feeds. It is said that the prime necessities for the premature newborn infants are—air for first 48 hours, water for next four days and calories thereafter.

The premature babies should be looked after in the premature unit during the neonatal period. All women in whom the onset of labour occurs at or before 37 weeks of gestation should be admitted to the hospital. All babies weighing less than 4 lb. at birth should be admitted to the premature baby unit.

While the babies are in the premature baby unit, the mothers should be taught how to take care of them. The babies are discharged when they can stand home surroundings and when the mother can take care of the baby.

In my series the neonatal death-rate in premature babies is 22·11 times higher than in mature ones.

In U.S.A., prematurity accounted for 22 per cent of deaths under 1 year in 1920 and 32 per cent in 1946 (Potter, 1953). Prematurity accounts for 44·2 per cent of all stillbirths and 57·3 per cent of all neonatal deaths in England ; in U.S.A. 47·0 per cent and 60·0 per cent respectively (Grosse, 1946).

The perinatal mortality in premature babies is 28 per cent (Drillien, *loc. cit.*) (16·4 per cent in the present series).

Neonatal mortality in premature infants is reported to be about 7·7 per cent (in my series, 8·519 per cent). The neonatal death-rate depends on birth-weight of the babies (Table 6).

TABLE 6—SHOWING PERCENTAGE OF NEONATAL DEATHS WITH RESPECT TO BIRTH-WEIGHT

Authors	Birth-weight in lb.			
	2½	2⅛—3½	3⅛—4½	4⅛—5½
Douglas (1953) ...	83·36	60·49	24·63	8·43
Present series ...	76·66	43·24	13·76	1·67

The mortality rate for Indian premature infants as noted by Balfour (1930) is shown in Table 7.

TABLE 7—SHOWING MORTALITY RATE FOR INDIAN PREMATURE INFANTS

Birth-weight in lb.	Death-rate per 1000 live-births
Below 4	840
4—5	333
5—6½	62

About 50 per cent of neonatal deaths in premature infants occur on the first day, 15 per cent on the 2nd day, so that about two-thirds of neonatal deaths in premature babies occur within the first 48 hours (Donald, 1955). According to Belford (1952) if a premature newborn survives for 4 days, it usually lives ; this is so, because the commonest cause of neonatal death is anoxia to which the baby usually succumbs within about 72 hours after birth.

Mortality of the premature baby is 4 to 5 times in presence of maternal and obstetric complications, e.g., in cases of toxaemia 26 per cent, antepartum haemorrhage 19·23 per cent, breech deliveries 16·6 per cent. The data by Taylor *et al* (1949) is interesting (Table 8).

TABLE 8—SHOWING PERCENTAGE OF MORTALITY IN UNCOMPLICATED AND COMPLICATED MATERNAL STATES

Maternal states	Weight (in g.)					
	1000—1500		1501—2000		2001—2500	
	P	N	P	N	P	N
Uncomplicated ...	34	25	13	7	2	1
Complicated ...	70	62	36	27	22	10

P=Perinatal mortality. N=Neonatal mortality.

Survival of premature babies is also affected by the socio-economic conditions of the mother.

About 22·8 per cent of premature babies die within the first year of life, 90 per cent of these deaths occur within the first week of life.

Prematurity accounts for about 52 per cent of all neonatal deaths within the first week of life, about 50 per cent of all deaths within the first month of life, and about 33 per cent of the deaths within the first year of life.

Anoxia and intracranial haemorrhage occur 12 times and 5 times respectively more frequently in the premature babies than in full-term babies. Fifty per cent of major congenital malformations occur in premature babies.

Causes of neonatal death—Causes of neonatal death in premature babies are reported as follows : anoxia 50-80 per cent (hyaline membrane 41-48 per cent) ; infections 40-44 per cent ; congenital

malformations 19-22 per cent ; birth-injuries 12-13 per cent ; cause unknown, 32·7-65·0 per cent.

Potter (1953) states that few infants weighing over 1,000 g. (i.e. 2·2 lb.) show absence of pathological lesions on careful post-mortem examination and can justifiably be considered as having died because of uncomplicated physiological immaturity.

The occurrence of premature birth is primarily a public health problem concerned basically with the socio-economic status and nutritional condition of the pregnant mother.

Summary

Data of the premature babies in the Municipal General Hospital, Sion, Bombay, in the year 1956 is analysed, and the relevant literature on the various facets of the problem of prematurity is reviewed briefly.

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References

Apley, J.—*J. Obst. & Gynaec. Brit. Emp.*, **61** : 502, 1954.

Axim, S. A.—*Indian M. Gaz.*, **66** : 633, 1931.

Baird, D., Nixon, W. C., Mackay, H. M. M., Powel, B. W., Butler, N. R., Mann, T. P. and Grosse, V. M.—*Proc. Roy. Soc. Med.*, **46** : 877, 1953.

Balfour, M. I.—*Indian M. Gaz.*, **65** : 630, 1930.

Belford, W. W.—*West. J. Surg. Obst. Gynaec.*, **60** : 249, 1952.

Bookstave, P. I.—*Am. J. Obst. & Gynec.*, **61** : 399, 1951.

Conway, D. J.—*J. Obst. Gynaec. Brit. Emp.*, **58** : 236, 1951.

Donald, I.—Practical Obstetric Problems, 1955, Lloyd-Luke, London.

Douglas, J. W. B.—*J. Obst. Gynaec. Brit. Emp.*, **57** : 143, 1950.

Drillien, C. M.—*Ibid*, **64** : 161, 1957.

Ellis, R. W. B.—*Arch. Dis. Child.*, **26** : 421, 1951.

Grosse, V. M.—*J. Obst. Gynaec. Brit. Emp.*, **53** : 72, 1946.

Henderson, J. L.—*Ibid*, **52** : 29, 1945.

Pomerence, W. and Steiner, M. A.—*Am. J. Obst. Gynec.*, **60** : 333, 1950.

Potter, E. L.—Pathology of the Foetus and the Newborn, 1953, The Year Book Publishers, Chicago.

Sen, N. C.—*J. Obst. Gynaec. India*, **3** : 172, 1953.

Taylor, E. S., Phalen, J. R. and Dyer, H. L.—*J.A.M.A.*, **141** : 904, 1949.

WHO—Manual of International Statistical Classification of Diseases, Injuries and Causes of Death, Vol. 1, Edition Sixth, 1948, p. 212.

CASE NOTES

X-RAY DIAGNOSIS OF HYDATID CYST OF THE LUNG : ITS RUPTURE INTO THE BRONCHUS AND SPONTANEOUS HEALING

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Hydatid disease is the parasitism produced by the larval form of *T. echinococcus*.

Incidence is more in sheep-raising countries like Australia, Brazil, Panama, South Africa, Uruguay, etc. It is not uncommon in India, China, Japan, and Philippines but is rare in U.S.A. and North Europe. Highest incidence is recorded in Australia. The proportion of lung to liver hydatids varies with countries. Waddle's (1950) summary shows that 10 per cent were associated with pulmonary disease. Betts and Thomas (1954) have reported 20 cases of which 3 had transdiaphragmatic communication. Gadekar (1956) states that incidence in North India is the same as that in South India.

X-ray diagnosis must be confirmed by immunological tests. Beckman (1949) discovered 5 pulmonary hydatids in tuberculosis clinic during routine roentgenological examinations.

An uncomplicated hydatid cyst not producing any pressure symptoms clinically is diagnosed radiologically by virtue of the presence of homogeneous, circular or oval shadows in the lung field. Since the lesion is not solid, it adjusts itself to the shape of the bony cage when it is in the periphery and to the shape of the fissure when it is adjacent to it. When the cyst grows bigger and occupies more space in the hemithorax the neighbouring ribs are splayed out. It may become lobulated as it grows. Since the lesion is cystic it alters its shape during the phases of respiration. There is no erosion of the ribs. Calcification of the cyst is not seen. Sometimes the double contour of peri- and ectocyst may be visualised.

When the cyst becomes complicated by rupturing into the bronchus the air enters between the adventitious pericyst and laminated ectocyst producing a crescent-shaped translucent shadow ("crescent sign").

When the air between the peri- and ectocyst increases, it produces pressure on the ectocyst and its adjacent part becomes flat giving a deceptive appearance of the fluid level. When the patient's position is altered the deceptive fluid level does not change.

When the ectocyst ruptures, the hydated fluid is expectorated partially, giving the appearance of a cavity with fluid level. The fragments of the cuticular membrane float on the top of the fluid giving the "water-lily sign".

As the fluid is expectorated more and more, the endocyst is seen as an arc above the fluid level and

the pericyst looks like a bigger arc giving the "double arc sign". Gadekar (*loc. cit.*) demonstrated the double arc sign even when there was plenty of fluid by changing the posture of the patient whereby fluid found a different level revealing the double arc.

When the fluid is completely expectorated, the ring inside a bigger ring (endocyst inside the pericyst), absolutely diagnostic of a ruptured hydatid cyst, is seen.

Case Report

M. R., a 18 year old male student, was admitted on 26-6-56 in Osmania General Hospital with the presenting symptoms of cough and dyspnoea. The patient also gave a history of injury of the left side of the chest with a diagnosis of hydropneumothorax, after which a rib resection and drainage were done. The drained fluid contained a cyst, resembling a hydatid. The biopsy report at that time was: "Piece of lung received contained several small cysts, variable in size from pea to a marble. A few cysts coalesced to form a bigger cyst. Scrapings of the cyst did not reveal any scolices. Cyst appears to be of congenital origin."

On 17-3-59 he again came with a complaint of pain in the chest.

On examination the lungs were clinically clear except for the impaired V. F. and V. R. in the left midzone. A scar in the left chest in the axillary line was visible.

Laboratory investigations revealed a small rise of eosinophils. Casoni's test was negative.

Skiagram—A plain x-ray of the chest (Fig. 1, *vide* Plate) revealed, in addition to organised pleurisy, an evidence of old pyothorax and two coin lesions in the left lung in the 2nd and 4th segments of the left lung. Multiple cysts were located to the 1st left segment. The opacity of the 2nd left segment was homogenous and measured 3". The opacity of the 4th left segment was smaller and was roughly 1¼" in diameter. The shape of the 2nd segmental lesion was limited to the thoracic cage being peripheral.

Another skiagram on deep expiration (Fig. 2, *vide* Plate) showed that the two segmental lesions altered shape during the expiration phase establishing the coined lesion to be cystic in nature.

Solid coin lesions in the lung were eliminated.

Other cystic coin lesions, e.g., specific lesions of tuberculous and syphilitic origin and the non-specific lesions of protozoal and helminthic origin and allergic eosinophilic granuloma were also thought of. But the size of the coin lesions and absence of clinical signs, presence of cysts in the 1st left segment and evidence of a cyst of doubtful aetiology in the pleura in 1956 led to a provisional diagnosis of hydatid cyst of the lung.

Follow-up—Within a fortnight (4-4-59) the patient again came with symptoms of cough, foul-smelling, thin, slightly yellowish expectoration and rise of temperature.

Skiagram—A skiagram of the chest (Fig. 3, *vide* Plate) now revealed a thick-walled cavity in the 2nd left segment, 2½" in diameter, replacing the coin lesion existing earlier and another thin-walled cavity 1" in diameter with fluid level in the same segment and at a lower level with surrounding pneumonitis. The second coin lesion in the 4th segment could still be visualised.

Granulomatous lesion suddenly rupturing was eliminated by the presence of two cavities in place of a single coin lesion. The diagnosis of hydatid cyst rupturing into bronchus producing the double cavity sign was arrived at and later confirmed by demonstration of scolices in the sputum.

On 7-4-59, another skiagram of the chest was taken, which showed that the fluid got expectorated completely and the surrounding pneumonitis subsided. Skiagrams in lying posture (Fig. 4, *vide* Plate) and erect posture suggested that the cavity with the fluid had changed its position with posture, demonstrating that it could be telescoped into the bigger cavity.

On 18-4-59, the skiagram revealed resolution of the ruptured cyst with disappearance of cavernous lesions, suggestive of spontaneous recovery.

Discussion

In the present case the evidence of multiple cysts in the skiagram (Fig. 1, *vide* Plate) suggested that the patient had hydatid cyst even before, which might have ruptured or the multiple cysts might be the evidence of compensatory emphysematous bullae which could be differentiated only by histopathology.

The second point of interest is the thin-walled cavity with fluid level instead of being inside the big thick-walled cavity is outside it. It gives an impression of the origin of the endocyst being exogenous from the germinal layer of the mother cyst or the endocyst could have been endogenous in origin from the germinal layer of the mother cyst, and it emerged out of the pericyst through the rent which communicated with the bronchus.

The location of the cyst in the upper zone, in contrast to the usual location in the lower zone, is yet another point of interest.

Negative Casoni's test, found in the patient, can be explained by the gradual desensitisation by the inseminated hydatid fluid due to rupture of the cyst.

ACKNOWLEDGMENT

I am grateful to Dr. G. Subba Rao, Superintendent, K.E.M. Hospital, for so kindly referring the patient for x-ray diagnosis and for his valuable guidance. I am also thankful to Dr. G. R. Baji, Thoracic Surgeon, for his suggestions. My thanks are also due to Dr. Aima and Dr. Krishna Rao, Pathologists of K.E.M. and Hospital for Diseases of Chest and Tuberculosis, for their valuable pathological report confirming the x-ray diagnosis.

REFERENCES

BECKMAN, T. M.—*Acta Chir. Scandinav.*, **99**: 266, 1949.
BETTS, R. H. AND THOMAS, T.—*Dis. Chest*, **26**: 584, 1954.
GADEKAR, N. G.—*Indian J. Radiol.*, **9**: 143, 1955.
WADDLE, N.—*Australian & Newzealand J. Surg.*, **19**: 273, 1950.

AN UNUSUAL CASE OF CAUSALGIA TREATED BY REPEATED STELLATE GANGLION BLOCK

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INTRODUCTION

Causalgia is a distressing complaint of rather obscure aetiology. The treatment of this condition is largely empirical. Some cases, however, respond admirably to the interruption of sympathetic impulses to the affected part.

CASE REPORT

Miss U. K., aged 14, had a whitlow of the right thumb incised about a month before she was referred to the author. The wound had healed but the patient complained of acute tenderness on the palmar aspect of the terminal phalanx of the right thumb. This resulted in pain whenever she attempted to write with a pen. She also complained of pain in the right upper limb, which was persistent although varying in intensity and not infrequently of a severe nature.

Physical examination—This revealed no organic cause for the pain in the right upper limb. She was referred to the author on 16-7-58 for stellate ganglion block.

Right stellate ganglion block was given at weekly intervals with 8 to 10 ml. of 2 per cent xylocaine or novocaine. The technique used for stellate ganglion block was as follows:

The patient was positioned supine on the table or trolley with a pillow under the shoulders and the head, which was turned to the opposite side. After aseptic precautions, an intradermal wheal was raised half-an-inch above the clavicle on the lateral border of the sternal head of the sternomastoid muscle. A long needle with stylet was inserted through this wheal directly backwards till it made contact with the anterior surface of the transverse process of the 7th cervical vertebra. The needle was withdrawn 0·5 cm., after which 8 to 10 ml. of 2 per cent xylocaine or procaine were injected, after a negative aspiration test for C.S.F. and blood. Typical Horner's syndrome appeared within 1 to 3 minutes of the injection, with an "illusion" of enophthalmos, narrowing of palpebral fissure, constriction of pupil, Guttamann's sign of nasal congestion, and anhidrosis. The patient was watched for about half-an-hour for any reaction of the drug and later on sent home.

The relief was not immediate. The intensity of pain diminished after the fourth injection. The pain in the right arm disappeared after the 10th injection. But the tenderness on the palmar aspect of the right thumb persisted. For this, a digital nerve block of the right thumb was carried out with a mixture of 2 ml. of 2 per cent xylocaine with 0·5 ml. of unicain fortis (containing 2·5 per cent benzocaine with 0·5 per cent urea quinine HCl). This was followed by some inflammation of the thumb after the injection, which subsided after about 2 days. The hyperaesthesia of the thumb disappeared thereafter.

The patient is now completely free from pain in the right upper limb and has been using her right thumb with perfect ease and comfort for the past 15 months.

DISCUSSION

Injection of short-acting local analgesic drugs like xylocaine or procaine in a peripheral nerve produces a relief of pain in the distribution of that nerve for much longer period than the normal effect of the drug. If some relief occurs after the first injection, it is worthwhile to repeat the injection at, say, weekly intervals.

In cases of causalgia, where the aetiology is obscure, relief has been reported by sympathectomy or sympathetic blocks. The mechanism by which relief is afforded in this way is not clearly understood. Repetition of the sympathetic block is necessary to obtain prolonged relief in cases of causalgia.

In this particular case interruption of sympathetic pathways could have been obtained alternatively, by cervical sympathectomy or stellate ganglion block with absolute alcohol, rectified spirit or phenol solutions. They would certainly have produced long-lasting cervical sympathetic paralysis but might have been accompanied by a permanent Horner's syndrome, and were therefore, not selected for aesthetic reasons in this young girl. Instead, repeated stellate ganglion blocks with a short-acting local analgesic drug were decided upon and they certainly afforded relief.

Relief from sympathetic block in causalgia may not be apparent immediately but may be seen after a few such injections have been carried out.

ACKNOWLEDGMENTS

My thanks are due to Dr. P. Diesh, Additional Medical Superintendent, Irwin Hospital, New Delhi, for permission to report the case.

TREATMENT OF EARLY NEURITIS IN LEPROSY WITH INTRANEURAL CORTISONE AND HYALASE

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AND

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Neuritis is the most agonising complication occurring in leprosy. If not treated early, it causes destruction of nerve fibres resulting in paralysis of the respective muscles. In the lepromatous type destruction of the nerve fibres is caused by oedema which strangulates the nerve fibres. The nerves usually involved are the great auricular at the neck, the ulnar at the level of the elbow, the radial on the lateral side of the arm midway between the shoulder and the elbow, the median at the level of the wrist and lateral popliteal at the level of the knee. These are superficial nerves and lie in proximity to the skin. Deeply placed nerves are never involved in leprosy. According to Brand (1959) the freedom from such involvement depends on the depth of the nerve from the surface and therefore on the temperature. The symptoms and signs in early neuritis are excruciating pain along the nerve, swelling and tenderness of the nerve. These are often accompanied by symptoms and signs of lepra reaction. In quite a number of cases there is paresis of the muscles.

CASE REPORTS

Case 1—A case of lepromatous leprosy with a high bacteriological index was admitted to the hospital with a complaint that he had developed right foot drop 3 days back. At the time of admission the patient was also having erythema nodosum type of reaction. Both the popliteal nerves were enlarged and tender. Clinically he had complete right foot drop. The musculature of the left foot was normal. Electrical assessment of the right lateral popliteal muscles revealed partial reaction of degeneration. The patient was given camoquin two tablets to start with and then 2 tablets a day for four days for the reaction which subsided after 4 days. A posterior splint was given extending from the mid-thigh to the foot, partially immobilising the knee in extension and the foot in dorsiflexion in order to rest the nerve in stretched position. Electrical assessment was repeated 5 days after admission but there was no change. So an intraneural injection consisting of 3 mg. of hyalase, 15 mg. of cortisone in ½ c.c. of lignocaine was given into the right lateral popliteal nerve. This injection was repeated after four days. There was immediate relief of pain and tenderness and the patient was able to lift his foot on the 5th day after the first injection. Electrical assessment now showed marked improvement. After three weeks, the patient had good dorsiflexion, though electrically the muscles were slightly weak. After 1½ months the mucles recovered fully both clinically and electrically.

Case 2—A case of lepromatous leprosy was admitted to the ward for the treatment of neuritis of the radial nerve. The patient had an enlarged right radial nerve which was very painful and tender. Clinically the patient was unable to extend the wrist against resistance. Electrically the muscles showed partial reaction of degeneration. On the fourth day after admission he was given an intraneural injection, consisting of 3 mg. of hyalase, 15 mg. of cortisone in ½ c.c. lignocaine, into the right radial nerve. The whole arm was put in a sling. The pain and tenderness subsided immediately and the swelling also subsided in 5 days. Electrical assessment after a week showed good improvement. After a month the muscles recovered completely, both clinically and electrically.

DISCUSSION

In acute neuritis there is inflammatfon with oedema resulting in ischaemia. There is also perineural and endoneural proliferation which results in perineural and endoneural fibrosis, causing contraction of the tissues. At this stage it is important to rest the nerve in stretched position, to prevent contracture of tissues. Garret (1956) reported the successful injection of hyalase into lepromatous nerves. By spreading action it causes dispersal of oedema. Cortisone is a fibrolytic agent. It also prevents oedema by reducing the capillary permeability. When neuritis occurs during lepra reaction it is necessary to give anti-reaction drugs, like potassium antimony tartrate, or camoquin or cortisone (Jopling, 1959; Thangaraj, 1959). This line of treatment is followed routinely now in this hospital and very satisfactory results have been obtained.

REFERENCES

BRAND, P. W.—*Internat. J. Leprosy*, **27** : 1, 1959.
GARRET, A. S.—*Leprosy Rev.*, **27** : 61, 1956.
JOPLING, W. H.—*Ibid*, **30** : 171, 1959.
THANGARAJ, R. H.—*Ibid*, **30** : 106, 1959.

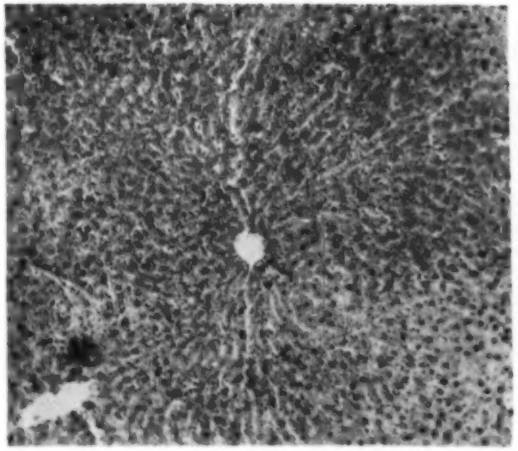

Fig. 1—Showing normal architecture of the liver of a control albino mouse—reticulum × 430.

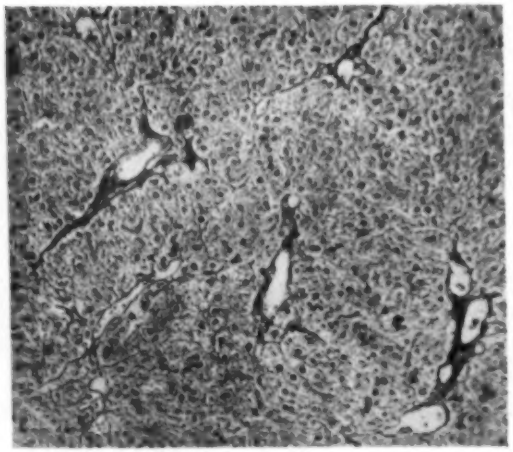

Fig. 2—Liver section showing grade 1 cirrhosis—reticulum × 430.

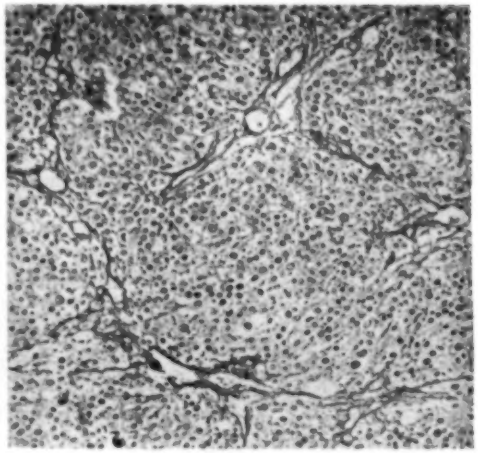

Fig. 3—Liver section showing grade 2 cirrhosis—reticulum × 430.

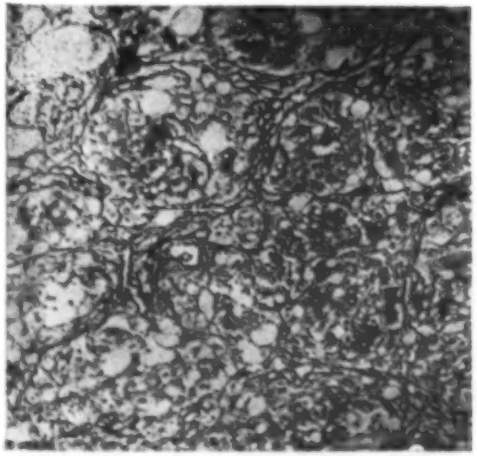

Fig. 4—Liver section showing grade 3 cirrhosis—reticulum × 430.

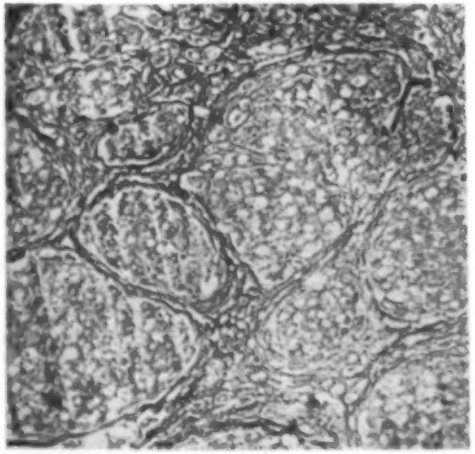

Fig. 5—Liver section showing grade 4 cirrhosis—reticulum × 430.

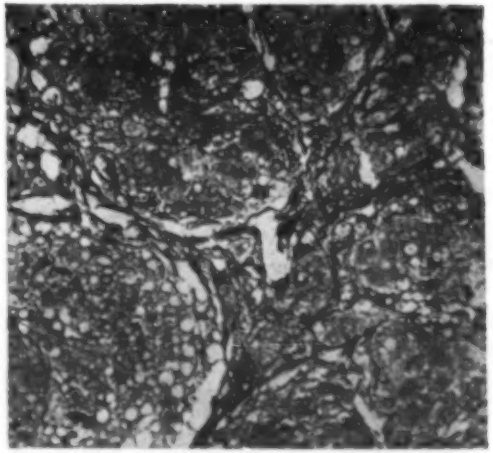

Fig. 6—Liver section showing grade 5 cirrhosis—reticulum × 430.

MATHUR *et al*—*Anaemia in Experimental Cirrhosis of the Liver (p. 343)*

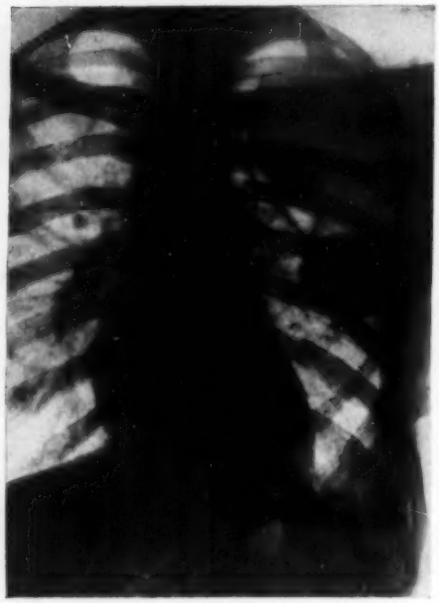

Fig. 1—Showing organised pleurisy and multiple cystic lesions in the upper zone of the left lung.

Fig. 2—Showing two segmental lesions, altered in shape during expiration phase.

Fig. 3—Showing the effect of the hydatid cyst rupturing into a bronchus—producing the double cavity sign.

Fig. 4—Skiagram in lying posture, showing the complete expectoration of the cystic fluid.

RAO—*X-ray Diagnosis of Hydatid Cyst of the Lung : Its Rupture into the Bronchus and Spontaneous Healing (p. 353)*

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TREATMENT OF CAUSALGIA

Causalgia is a condition in which the patient suffers from intractable pain of a burning character either continuously or intermittently. This term was first employed[1] as early as 1864. The cause originally was the after-effect mainly of gun-shot wounds of the extremities. Later on many other conditions were found producing the same symptoms the aetiology of which was not always known. All these conditions including causalgia came under a modern nomenclature 'reflex dystrophy'[2].

The treatment of this condition where the aetiology is known is to eradicate the cause. But unfortunately even when the cause is removed sometimes the pain persists and also in cases of unknown aetiology the treatment is "nerve blocking" by local analgesic drugs.

The blocking of the somatic nerves concerned sometimes fails to relieve the pain. Under such circumstances it has been found that the relief is obtained by sympathetic block[3, 4] the rationale of which cannot always be explained. This relief is sometimes not very perfect after the first injection or the relief obtained is temporary. So repeated injections have been found of help in these conditions[5]. Somatic nerve blocks together with repeated sympathetic block also were found advantageous.

If the pain belongs to the upper extremity, stellate ganglion block has given good results.

Elsewhere[6] in this issue a case has been reported in which repeated sympathetic blocks together with blocking of the somatic nerve concerned gave good results.

But there are occasions where such results are not permanent. Sympathectomy or alcohol injection on the ganglion has produced better results. De-Takats[7] advocates injection of the 2nd and 3rd ganglia by the posterior route where stellate block by the anterior route has failed to give relief.

In some of the very late cases simple nerve blocks will not cure the patient. Intensive physical therapy is indicated in addition[8].

Nerve block has recently come into vogue for diagnostic as well as for relief of pain due to various causes. Since regional analgesia is within the purview of the anaesthetists, this blocking has also been included within their domain. Due to the increased incidence of malignant diseases the relief of pain has become a problem. In inoperable cases or where the condition of the patient does not permit radical surgery, nerve block has improved the patient's condition apart from the relief of pain[9].

"Nerve-block Clinics" or ' Pain Clinics''[10] have been founded in many hospitals in Western countries where anaesthetists are asked to manage the show. It is high time that such clinics should also be established in this country and the anaesthetists in charge should develop special technical skill.

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[1] Mitchell, S. W., More-House, G. E. and Keen, W. W.—Gun Shot Wounds and other Injuries of Nerves, 1864, Lippincott, Philadelphia.

[2] Tarsy, J. M.—Pain Syndromes and their Treatment, 1953, Thomas, Springfield, Ill., p. 361.

[3] Livingston, W. K.—Pain Mechanism, 1947, MacMillan, London.

[4] Bonica, J. J.—Management of Pain, 1953, Lea & Febiger, New York.

[5] Evans, F. T. and Gray, T. C.—Modern Trends in Anaesthesia, 1958, Butterworth, London, p. 101.

[6] Bahl, C. P.—*J. Indian M. A.*, **34** : 355, 1960.

[7] De-Takats, G.—*Arch. Surg.*, **34** : 939, 1937.

[8] Roedling, H. A. and Roth, J. M.—*J. A. M. A.*, **165** : 799, 1957.

[9] Bonica, J. J.—*Anesthesiology*, **15** : 134, 1954.

[10] *Idem—Ibid*, **16** : 854, 1955.

I.M.A. PRESIDENT'S TOUR

Dr. H. N. Shivapuri, President of the Indian Medical Association, visited two branches during the early part of March 1960.

On the 6th March last the President inaugurated a Regional Conference organised by the Kanpur Branch. In his Inaugural Address, which is appended, he appealed to the members for contributions to the I.M.A. Building Fund. He was promised a good deal of help in this connection and he hoped to receive from them some contributions soon. In the Scientific Section, which also the Kanpur Branch organised very well, Prof. Leslie Banks, of the University of Cambridge, who had a lot to do in connection with the present National Health Scheme in U.K., spoke on Socialised Medicine in U.K.

On the 7th March Dr. Shivapuri visited the Farrukhabad-Fatehgarh Branch which had organised on that date an attractive programme which included several informative scientific papers. The Branch had already made some contribution to the I.M.A. Building Fund and was now organising a show, the proceeds of which were to go to the Fund. Such effort by this branch of the Indian Medical Association, small though it is, drew the admiration of Dr. Shivapuri who was very happy to be amongst its members.

* * * *

Inaugural address by Dr. H. N. Shivapuri, President of the Indian Medical Association, at the Regional Conference organised by the Kanpur Branch, I.M.A.:

MR. PRESIDENT & COLLEAGUES OF THE PROFESSION,

"What the world wants is character. The world is in need of those whose love is one burning love —selfless....That love will make every word tell like a thunderbolt. Awake, awake, great souls! The world is burning in misery. Can you sleep?"

This is the problem before us today—we as Indians, we as members of a noble fraternity. Everyone of us should ponder deeply in our quieter and calmer moments whether we are doing our duty and if not, why not and how can we improve and fulfil our task? When we adopted this profession as our own and joined a medical college, we imposed the above duty on ourselves. For us all to fulfil this mission is a double duty, as it is a self-imposed task. We chose our profession out of our free will and not through any compulsion from any source.

Ladies and Gentlemen, I have only very recently unburdened myself at great length at Indore as the President of the XXXVI All-India Medical Conference and I hope you have had time to digest all that I said or suggested there. I am sure you do not want me to repeat all that, as many of you must have read already what I said there and the rest of you will soon be receiving my Adress in the Conference number of our Journal. I have tried to represent in my Address the various medical and health problems from our (I.M.A.) point of view and I hope you agree with those views, at least with most of what I have said.

These are the days of Planning. We have copied the method from U.S.S.R. but we have not increased the efficiency of our Administrative Machinery. The result is that all our Planning is haphazard and whatever schemes we produce are not properly thought out, with the result that due to want of administrative efficiency and lack of spirit of patriotic drive, either these schemes are not fulfilled or completed very badly and we are not able often to utilise even what little money is provided for the Health Schemes in the Annual Budgets. If we are to prosper and make full use of the opportunities, we have to remodel our Administration to meet the modern needs and do so quickly.

We are really grateful to national and international bodies such as UNESCO, WHO, UNICEF and others for all the help and advice we are receiving in men and money. But there is one aspect which has not been considered at all; whereas we welcome and we hope we are making full use of such financial aids and experts such as one sitting here today by my side—Prof. Leslie Banks—a very well known authority in his subject; but what about our own people, who are either neglected or are underpaid and then our leaders complain that we are not patriotic enough to serve our Country. What I demand is full utilisation of our own experts and technical manpower on a living wage and not on starvation wages. I do not ask for princely salaries but I do expect that they will be paid as much at least as other class I services are being paid in our own country. If this anomaly is not rectified early, opening of even 100 Medical Colleges will not solve the problem of vacant dispensaries without medical officers. The Government itself is thus helping in increasing quackery in the country by putting dispensaries in charge of compounders not by ones or twos or occasionally but by dozens and then shedding crocodile tears that the Doctors do

not come. I learn from reliable source that out of two thousand Primary Health Centres all over the country that exist today, about 400 centres or roughly about 20 per cent, are without Doctors. Should this not make our political masters sit up and think as to the cause and do justice to the members of the profession. It is high time that this was done.

Ladies and Gentlemen, our difficulties are many—

Sales Tax is a problem which has defied a satisfactory solution so far. Inspite of repeated memoranda and deputations to three successive Finance Ministers, we have not been able to achieve any tangible results. The Government which has not been afraid of treading on constitutional rights when occasion demanded, has been frightened in this case of making invidious distinction—a poor defence indeed. Some of our friends have given a counsel of despair of filing a writ in the High Court. It is easy to do so, but let us consider the consequences. If it goes against us and it has gone against the profession in Bengal, then the Sales Tax will be round our necks like a halter permanently. And U. P. Government is also depending partly on Bengal High Court Judgment. The other extreme alternative is to follow up Mahatma Gandhi's technique of refusing to pay the Sales Tax and take the consequences. In Mahatmaji's words "The real road to happiness lies in going to Jail and undergoing suffering and privation in the interest....." Thoreau was the first person to write a treatise on Civil Disobedience. In fact, it was his essay on the subject, which inspired Mahatmaji and Thoreau discribed "Civil Disobedience is to do any time what I think right". But Ladies and Gentlemen, it is easy to talk of Civil Disobedience than to carry it out. If you can find even 100 Doctors in U.P. who will be willing to refuse to pay and suffer the consequences then I assure you, I am prepared to lead you and be the first to take the consequences. But to achieve this, you want unity of purpose and strength and today I find we lack in both. Many of us go our own way and not willing even to join the Indian Medical Association and thus give it strength—much less have unity of purpose and follow the guidance given by the Association. Under the circumstances the best thing is to keep on fighting a constitutional battle, eventhough it may only be a rearguard action and I am sure we will ultimately succeed in winning our cause though in the interval some of us may have to suffer. But there are no gains without pains.

While I am on the subject of unity and strength of the Association, let me point out to you that we have so far lacked in our primary duty of helping the Central Office and making collections for its Building. In this particular matter I regret to say, that our friends of the Kanpur Branch are the biggest culprits (excuse the strong word) in U.P. Kanpur boasts to be our biggest Branch in U.P. but has hardly paid anything at all to the Building Fund. It is an active Branch in many respects, but has lagged behind even some of our smaller Branches in this respect. The Kanpur Branch is keen in obtaining the U.P. Trophy as the most active Branch, but you must remember that one of the questions that you must satisfy to obtain this trophy is the amount of payment to the Central Building Fund. Dr. Sen and I have appealed repeatedly and I have come again with the beggar's bowl and you have to fill that bowl. My demand is Rs. 15,000/- from Kanpur Branch and sooner you fulfil, the better it will be. I feel ashamed in All-India Committees that even those of you who promised have not fulfilled their promises so far. I appeal to you again and I hope you will not allow me to go empty handed.

Then there has been some activity on behalf of some of the District Magistrates regarding some Excise convention about the opium group of drugs. The State Branch has had no response, at least not satisfactory response, from the Excise Commissioner in spite of repeated reminders. But the District Magistrates have also become lukewarm after an initial burst and I would let the sleeping officials lie and not tease them. However the State Office will not be sleeping over the matter.

Then there are other difficulties like quackery, unemployment and underemployment in the profession, unethical and unequal competition from Ayurvedas, Hakims and Homoeopaths, who have no code to follow. I would not like to dilate on them today, as I have spoken on these subjects before.

Ladies & Gentlemen, we are on the threshhold of the III Five Year Plan. We are all deeply concerned not only as citizens of this ancient land but as members of a profession which is vitally concerned with the Health of the Nation. I request members of Kanpur Branch, and if there are other Branches represented here then I request them also, to ponder over the problem of Health of their town and the rural areas of their respective districts. I would request them to draw up a plan

with priorities marked and send them to the State Branch Office. I would also request each individual member to ask himself or herself a question as to how best can he or she help in this matter. Can you not adopt a village near your town of residence and take responsibility for the health of its inhabitants from all aspects or some other similar objective? This can be done by a Branch as a whole or by a group of members. These are days of mass contact and unless we also do some such thing, we cannot hope to make our profession popular among the masses. We should so behave with the public at large that we make ourselves popular and create a public demand for you and me. We must do our duty ethically and keep up the prestige of the profession. We must act in a way that no one outside can point a finger at us. Our self-respect is in our own hands and we must try not only to retain it, but we must do everything to enhance it.

In recent months, as your representative, it has been my misfortune to listen to criticisms of our behaviour and conduct repeatedly. The latest incident occurred only the other day in a meeting called by the Government of India, when Dr. Sen and I put up certain suggestions and a very leading and well known and very sincere and honest social worker replied that some of us were not honest. It is very unpleasant for your representatives to listen to such or similar remarks from various platforms. I can only appeal to you all to listen to my opening remarks of being selfless. Let us work sincerely, honestly and ethically.

You know that the Indian Medical Association had put up a scheme for Family Planning Clinics under our auspices or run by our Branches. I am glad to inform you that the Government of India has almost accepted our scheme in toto and you shall soon be hearing on the subject. In the meantime I would request all Branches to do spadework and prepare schemes for them to be started as soon as possible after we hear officially from the authorities. I need not emphasise that Family Planning has become a number one priority for us all and the Government and in a way the future of the country and the nation depends on our successfully stabilising our population at a reasonable figure.

I may remind you that April 7 is the World Health Day. As your representative I have promised the Government of Inda that Indian Medical Association will do its best to help celebrate the day suitably and co-operate with the Government and other bodies in doing so. The subject this year for special emphasis is "Eradication of Malaria—a World Challenge". I hope you will suitably celebrate the occasion.

And now Ladies and Gentlemen, my task is almost done. I congratulate the Kanpur Branch in taking the initiative. Kanpur Branch is our premier Branch in U.P. and one of the oldest in the country. It is one of the few Branches, which acted as Founder Branches of the U.P. State Branch and provided us with our First State President—Late Dr. S. N. Sen, a stalwart of the profession in those days. I am glad, his son—a chief of the old block and my friend, is with us. Then I am sorry to state that Kanpur lost one of its active members untimely—I mean Late Dr. M. X. De Noronha and the U. P. State Branch lost one who would have been a very active and live President. To these leaders of revered memory and others who have gone, let us pay our tribute and stand in silence for a minute in memoriam.

I am glad that some of the stalwarts like Dr. Jawaharlal, Dr. Bhalley and Dr. Banwarilal Rohatgi are still active. I have always depended on their help and guidance and I have always had their unstinted support and co-operation. I am sorry that your president of the year Dr. Rajendra Rohatgi has very untimely had a heart attack. It is my earnest hope that he will be restored to health and will continue his good work for years to come.

Ladies and Gentlemen, I am grateful to you all for calling me to inaugurate this Regional Conference. I have tried to serve the profession for years according to my lights. I may have erred at times but I have tried to do my best and I "Live and learn", which is my family motto. In the words of Shakespeare, I would request you to

"Speak of me as I am, nothing extenuate,
Nor set down aught in malice,
But then must you speak,
Of one that lov'd (the profession may be)
not wisely
But too well."

With these words, colleagues of the profession, I have great pleasure in inaugurating this Regional Conference and wish you all the best of luck and success.

JAI HIND.

CURRENT MEDICAL LITERATURE

Aortic Stenosis in Adults

ABLEMANN, W. H. AND ELLIS, L. B. (*Ann. Int. Med.*, **51**: 449, 1959) from the Thorndike Memorial Laboratory and Second and Fourth (Harvard) Medical Services, Boston City Hospital, and the Department of Medicine, Harvard Medical School, Boston, Massachusetts, in giving a summary of a review of 6 years' experience of aortic stenosis in adults observe:

When auscultation suggested aortic stenosis, left ventricular hypertrophy by electrocardiographic and roentgenologic examination, and calcification in the region of the aortic valve usually, but not always, indicated significant aortic stenosis. At times, mild or even insignificant aortic stenosis in combination with severe coronary or myocardial disease may mimic severe aortic stenosis. Conversely, severe aortic stenosis may be occult, and present as heart failure of unknown aetiology. In 44 of 60 patients who were studied by catheterisation of the left side of the heart, the clinical assessment of the severity of the stenosis was confirmed. The degree of obstruction was clinically underestimated in six and overestimated in 10 patients.

A detailed analysis of the symptoms, physical signs, electrocardiograms and radiologic examinations of 25 patients with severe isolate aortic stenosis and 12 patients with mild or insignificant stenosis has been presented. The clinical pictures of the two groups were very similar and did not permit reliable differentiation.

Catheterisation of the left side of the heart, with measurement of intracardiac pressures and blood flow, permitted accurate physiologic assessment of the presence and degree of aortic stenosis.

Patients with aortic stenosis who become symptomatic with angina, dyspnoea or syncope have a bad medical prognosis. Although the operative management of the disease is still far from perfect, it nevertheless offers more than does continued medical management at this stage of the disease. In a consecutive series of 86 patients operated upon by the transaortic approach by one surgeon, the operative mortality was 17·5 per cent, and 10 per cent died within the first year after operation. However, 74 per cent of those surviving were improved from six months to four years after operation.

Patients who had recently been in heart failure prior to surgery suffered a high operative mortality, and only a few improved. Other factors affecting late results are discussed.

Acute Rheumatic Fever in Adults

ELSTER, S. K. AND PADER, E. (*Ann. Int. Med.*, **50**: 339, 1959) from the Department of Medicine, Mount Sinai Hospital, New York, from a study of the clinical and laboratory manifestations of the "rebound phenomenon" appears in 22 of 43 adult patients treated for acute rheumatic fever observe:

Of the 22 patients, 14 had one rebound, seven had two rebounds and one had four rebounds.

Fever, tachycardia and arthralgias were the most common clinical manifestations, with arthritis and pericarditis occurring less frequently. Elevation of the erythrocyte sedimentation rate, reappearance of C-reactive protein and, less commonly, the appearance of electrocardiographic changes were the laboratory findings.

Factors affecting the incidence of the rebound have been reviewed and no consistent relationship has been noted in regard to duration of illness prior to therapy, duration of therapy or mode of withdrawal of drugs. It is suggested that the highest incidence of the rebound was in the group receiving large doses of adrenocortical hormones, and that abrupt withdrawal of these drugs provoked the appearance of the rebound more commonly than did abrupt withdrawal of salicylates.

The manifestations of the rebound responded quickly to reinstitution of therapy.

Possible mechanisms of production of the rebound have been reviewed.

It is suggested that the rebound phenomenon is an indication of persistent rheumatic activity and, as such, requires further therapy.

Subacute Bacterial Endocarditis in the Older Age Group

CUMMINGS, V., FURMAN, S., DUNST, M. AND RUBIN, I. L. (*J. A. M. A.*, **172**: 137, 1960) from the Medical Division, Montefiore Hospital, N.Y. from a series of 55 patients with subacute bacterial endocarditis out of which 18 aged 50 years or older observe that the diagnosis was based either on autopsy findings or on the presence of typical signs and symptoms and positive blood cultures. In 3 of the 18 no heart murmurs were detected during life, and even in retrospect adequate clinical criteria were lacking so that the diagnosis became clear only at autopsy. The atypical nature of many cases resulted in confused diagnoses and misdirected treatment. This was the most common reason for mortality. Thirteen (72 per cent) of the 18 older patients died. Among the 37 younger patients only 10 (27 per cent) died. Reasons are given for believing that mortality from this disease in older people can be substantially reduced if the disease is watched for and properly treated.

Hypothyroidism

LOWREY, R. AND STARR, P. (*J. A. M. A.*, **171**: 2045, 1959) from the School of Medicine, University of Southern California and Los Angeles County General Hospital write:

Serum protein-bound iodine (PBI) determinations were done on the following groups: 1,823 men in industry, of whom 4·94 per cent had values below 4 μg. per cent, the assumed low limit of normal; 2,162 male professional blood donors, among whom 9·2 per cent had values below 4 μg. per cent; and 735 male physicians who had volunteered for the test at the 107th Annual Meeting of the American Medical Association, 1958, only 4·2 per cent of whom had levels of serum protein-bound iodine below normal. Of 1,015 female employees of the Los Angeles County Hospital, who had volunteered for the test, only 1·47 per cent had levels below 4 μg. per cent. Statistical comparison of the levels of serum protein-bound iodine of the female with those of the male population indicated that the females had a significantly higher

mean level of serum protein-bound iodine, 5·66 μg. per cent, with a standard deviation of ±1·22, as against 5·33 μg. per cent, with a standard deviation of ±1·19, for the males. It is suggested that a serum protein-bound iodine level of 4·5 μg. per cent be accepted as the lower limit of normal in adult females. Subclinical hypothyroidism in American men would appear to exist in about 4 to 5 per cent of the adult male population. Since a serum protein-bound iodine level of 4 μg. per cent is—25 per cent in terms of our mean level of 5·33 μg. per cent, it is recommended that men who have values below this be given lifelong thyroid hormone therapy in sufficient daily dosage to maintain their serum protein-bound iodine level at between 5 and 6 μg. per cent.

Parenteral Vitamin B_{12} on Muscle Contraction in Hypothyroidism

LAWSON, J. D. AND WEISSBEIN, A. S. (*Am. J. M. Sc.*, **239** : 71, 1960) from the Department of Medicine, Brooke Army Hospital, Brooke Army Medical Center, Fort Sam Houston, Texas, write :

The administration of 1 mg. of vitamin B_{12} to 73 euthyroid and 10 hyperthyroid patients caused no change in the Achilles reflex contraction time.

Twenty-nine untreated hypothyroid patients and 7 inadequately treated hypothyroid patients showed an abrupt, transient prolongation of the Achilles reflex contraction time of greater than 40 milliseconds following the parenteral administration of 1 mg. of vitamin B_{12}.

Twelve hypothyroid patients who were overtreated with thyroid had an abrupt shortening of their reflex contraction time of 20 milliseconds or more following the administration of vitamin B_{12}. Eight of the patients had previously shown prolongation at the time therapy was initiated.

The authors conclude that vitamin B_{12} has some unknown effect on the contractile process of skeletal muscle in patients who are hypothyroid and who are under or overtreated with exogenous thyroid. These patterns of muscular response following the administration of vitamin B_{12} have proved pragmatically useful when indecision as to the adequacy or inadequacy of thyroid dosage, or a problem in the diagnosis of hypothyroidism, has arisen.

Xanthelasma

VACCA, J. B., KNIGHT, W. A. AND BROUN, G. O. (*Ann. Int. Med.*, **51** : 1019, 1959) from the Department of Internal Medicine, St. Louis University of School of Medicine and Firmin Desloge Hospital, St. Louis, Missouri, from a clinical study of 51 cases (35 females and 16 males) with xanthelasma observe :

Thirty-eight per cent of the females in this series were more than 40 pounds overweight, whereas only 6 per cent of the males were this much overweight. Thirty-four per cent of those tested had clinical or latent diabetes of the adult type. Thirty-one of the 35 females with xanthelasma were postmenopausal at the time of this study; nine females had had their menopause before the age of 45 years.

Seventy-three per cent of the group had a serum cholesterol level greater than 300 mg. per cent; 79 per cent of those who were tested had mild to moderate elevations of total blood lipids.

Evidence of coronary artery disease was present in 69 per cent of the males and 43 per cent of the females; peripheral vascular disease occurred in 20 per cent and cerebrovascular disease in 8 per cent of the series.

The occurrence of cachexia or a wasting disease in a person with xanthelasma was associated with a lesser elevation of blood lipids.

A general relationship between the size of the xanthelasma and the cholesterol level was suggested.

A striking variation of serum cholesterol levels was observed in many of the individuals studied. The degree of fluctuation seemed to be related to the mean cholesterol level.

A family history of xanthoma (including xanthelasma) or of prominent vascular disease was obtained in a minority of individuals.

Malignant Hypertension

HARRINGTON, M., KINCAID-SMITH, P. AND MCMICHAEL, J. (*Brit. M. J.*, **2** : 969, 1959) from the Department of Medicine, Postgraduate Medical School of London, from the observations of a series of 82 patients with malignant hypertension treated with ganglion-blocking drugs during the period 1951-8 are compared with a control series previously reported from the same hospital report :

The expectation of life of the treated patients was increased by a factor of six to eight times that expected from the control series. Prolonged survival was particularly seen in those patients whose renal function was normal or only slightly impaired at the start of treatment. Death was most frequently due to uraemia; heart failure as a cause of death was considerably diminished in the treated group.

The benefits of treatment were most pronounced on retinitis and in heart failure. Improvement in the electrocardiogram was seen in one-third of cases; reduction in cardiac size occurred somewhat less frequently.

Renal function tended to remain stationary or to improve slightly in patients with an initial blood urea level below 80 mg. per 100 ml.; where renal impairment was more severe than this progressive deterioration was the rule.

Patients with neurological complications did not derive much benefit from treatment. Accompanying atherosclerosis was a limiting factor in the success of treatment, particularly in older patients.

A survey of the histological lesions in the kidneys showed that after treatment with hypotensive drugs the main changes were a conversion of cellular intimal hyperplasia in the interlobular arteries to fibrous intimal thickening and a "healing" of fibrinoid degeneration to hyaline and fibrous tissue. Some correlation was likely between the degree of narrowing of the interlobular arteries at the start of treatment and prognosis.

CURRENT TOPIC

MEDICAL COUNCIL OF INDIA

The following is from the presidential address of Dr. C. S. Patel, at the fifty-second session of the Medical Council of India on November 8, 1959 :

In my address at the fiftieth session on the 31st October, 1958, I had reported to you briefly the developments that took place during the recess period of the Council in particular and during my Presidentship in general. Since then, the Government of India have issued the necessary notification recognising and including the MBBS degree granted by the University of Karnatak in the First Schedule to the Indian Medical Council Act, 1956. We had received the observations of the Universities of Punjab and Vikram in respect of the MBBS degree granted by these Universities in respect of the students being trained at the Government Medical College, Patiala and the M. G. M. Medical College, Indore and the G. R. Medical College, Gwalior respectively and the recommendations of the Executive Committee in this respect are being placed before you. The observations on the Inspectors' Reports (Periodical) are still awaited in respect of M.M.F. West Bengal and MBBS degree of the Universities of Bihar, Rajputana, Punjab and Utkal. On receipt of their observations, the matter would be considered by the Executive Committee and placed before you for your consideration. The observations of the University of Calcutta on the periodical MBBS inspection reports (1954) have been placed before the Executive Committee for consideration and making recommendations to you. Five yearly periodical under-graduate inspections due during 1959 are being arranged at the following centres :

(1) Andhra University, (2) Calcutta University, (3) Baroda University, (4) Gujarat University, (5) Madras University, (6) Mysore University.

We have received a communication from the Government of Mysore who are at present having the administrative control of the Medical College, Mysore since its transfer from the Mysore University from 20-8-1958, requesting that the inspection of the college may be postponed, till the end of this year or early next year by which time they would be able to fulfil the requirements of this Council. In this connection, I may, however, state here that the inspection of the Mysore University was last carried out during 1954 and the reports of the Inspectors were forwarded to the University for their observations and implementation of the various suggestions and recommendations made by the Inspectors in their reports, but the observations of the University have not yet been received. Besides this, the observations from the universities of Bombay, Utkal and Patna in respect of the inspections carried out during 1954-56 are still awaited from them inspite of repeated reminders. I have, time and again, reported to you the inordinate delay on the part of the Universities and the Licensing bodies in expediting their observations. In the absence of their observations, the inspections do not fulfil the purpose for which they are carried out. By the time the observations are received, another inspection becomes due and the deficiencies, etc., pointed out in the previous inspection reports are not properly taken heed of. I would, therefore, once more stress on the representatives of the various universities on this Council to please persuade the authorities of their respective Universities to expedite their observations as such inordinate delay on their part is not conducive to the improvement and development of medical education on proper lines.

An inspection of the facilities for teaching provided for under-graduate training at the Guntur Medical College, Guntur, affiliated to the Andhra University was carried out in 1957 when the first final batch passed out from the college. Since there was some difference of opinion among the inspectors, it was decided by the Executive Committee that another inspection by the Council Visitors be carried out. This inspection was arranged and the Visitors' report is being placed before the Executive Committee for its consideration. The Inspectors' Reports on the existing facilities for under-graduate teaching together with the observations of the University thereon at the Christian Medical College, Ludhiana, affiliated to the Punjab University were considered by the Executive Committee at its meeting held on the 28th March, 1959. In view of the deficiencies pointed out by the inspectors and as decided by the Executive Committee, another inspection by the Council's Visitors was arranged during the last month and the report of the Visitors is being placed before the Executive Committee.

The Madurai Medical College, Madurai, affiliated to the University of Madras, is reaching its final stage. An inspection of the facilities for teaching provided at this institution and the standard of examination of the Madras University is being arranged so that it might be finally approved for the under-graduate course. But in view of the request recently received from the Madras University, perhaps this inspection will have to be postponed till next year.

Inspections by the Council Visitors are being arranged at the following colleges :

(1) Medical College, Nagpur in respect of the additional facilities provided there for extra students of the Government Medical College, Aurangabad admitted there ;
(2) The Government Medical College, Aurangabad affiliated to the Marathawada University for pre-clinical training.
(3) The Kakinada Medical College, affiliated to the Andhra University.
(4) The Medical College, Calicut, affiliated to the Kerala University.
(5) The Karnatak Medical College, Hubli, affiliated to the Karnatak University, and
(6) Gandhi Medical College, Hyderabad, affiliated to the Osmania University.

The recommendations of the Executive Committee together with the Inspection Reports and observations of the Universities concerned regarding the recognition and inclusion in the First Schedule to the Indian Medical

Council Act, 1956 of the following qualifications are being placed before you :

1. Vikram University ..	M.D. (Pharmacology)
	M.D. (Pathology)
	M.D. (Medicine)
	M.D. (Physiology)
	M.S. (Ophthalmology)
	M.S. (General Surgery)
	M.S. (Obst. & Gyn.)
	M.S. (Anatomy)
	T.D.D.
	D.C.H.
	D.M.R.E.
2. Agra University ..	D.O.M.S.
3. Bombay University ..	M.D. (Tuberculosis)
4. Andhra University ..	M.S. (E.N.T.)
5. Gujarat University ..	M.S. (General Surgery)

The Inspection Reports received in respect of the following qualifications are being forwarded to the universities concerned for their observations. On receipt of their observations they would be considered by the Executive Committee and placed before you for your consideration together with their recommendations.

Bihar University ..	M.D. Medicine
	M.S. Surgrey
	M.D. Midwifery & Gyn.
	M.S. Midwifery & Gyn.
	M.S. (E.N.T.)
	M.S. Ophthalmology
	M.S. Anaesthesia
	M.D. Paediatrics.
Poona University ..	M.D. (Pharma)
	M.D. (Path)
	M.D. (Medicine)
	M.S. (Surgery)

Inspections of the following post-graduate qualifications of the Universities mentioned against them have been arranged during 1959-60.

Agra University ..	T.D.D.
	D.M.R.E.
Baroda University ..	D.A. (Dip. in Anaesthesia)
Rajasthan University ..	M.S. (Ophthalmology)
Vikram University ..	D.O.M.S.
Poona University ..	D.P.H. (Dip. in pub. health)
Punjab University ..	M.S. (Anaesthesia)
Calcutta University ..	D.M.C.W.
Gauhati University ..	M.D. (Medicine)
	M.S. (Surgery)
	M.S. (Opthalmology)
	M.S. (Oto-Rhino-Laryn.)
	M.O. (Master of Obst.)
Bihar University ..	M.S. (Anatomy)
	M.D. (Pathology).

One of the functions of the Council has been the furtherance of the recognition of Indian Medical qualifications in the States or countries outside India with its corollary of recognition in this country of approved qualifications of such States or Countries. When the Indian Medical Council Act was enacted all the foreign medical qualifications on Table F, I & J of the British Medical Register for 1931 were included in the Schedule of recognised foreign medical qualifications.

The relations of India and the United Kingdom in respect of reciprocity of recognition of medical qualifications were later on governed by Section 120 of the Government of India Act, 1935. Although this section placed India and the United Kingdom on a reciprocal footing, it was not open to the Medical Council of India to refuse to recognise any United Kingdom Medical Diploma even on the ground that the Diploma did not furnish a sufficient guarantee of the possession of the requisite knowledge and skill. The position therefore, was that while this Council recognised all the British qualifications, Indian qualifications were not so recognised by the General Medical Council of United Kingdom. Besides this, the hang-over of the previous happenings, to which I have already referred in my previous speeches, persisted. It was, therefore, no wonder that inspite of our anxiety and efforts to improve our relations with the General Medical Council of United Kingdom many Indian qualifications recognised by our Council remained unrecognised for certain periods.

The General Medical Council having turned down the repeated requests of the Council regarding advancing the dates of recognition of the M.B.B.S. degree granted by the Agra University with retrospective effect, the matter has been referred to the Government of India for their consideration with regard to the fact that no uniform procedure had been adopted by the General Medical Council in respect of recognition of qualifications of various Commonwealth Countries shown in Table F of the General Medical Council Register nor has any College been shown against the Universities of other countries except in the case of India and Pakistan. The Government of India in reply have stated that the alleged discrimination by the General Medical Council of U.K. in regard to Indian medical qualifications cannot be said as warranted by the provisions of Section 20 of the U.K. Medical Act, 1956 and that if, however, the Medical Council of India desire to pursue the matter, they can correspond direct with the General Medical Council. Under the direction of the Executive Committee, Major K. N. Rao, Director of Medical Services, Andhra Pradesh, and a member of the Executive Committnee has been requested to meet the President of the General Medical Council of U.K.

In my last address, I had reported to you that the General Medical Council have accorded recognition to the M.C.P.S. qualification granted by the College of Physicians and Surgeons of Bombay in respect of persons who have undergone a course of study and examination at the Grant Medical College, Bombay, Seth G.S. Medical College, Bombay or T.N. Medical College, Bombay. Under the direction of your Executive Committee, the General Medical Council was again approached also to extend the recognition to persons who are being trained at the B. J. Medical College, Poona, and B. J. Medical College, Ahmedabad. The General Medical Council has accordingly granted their recognition in respect of persons who are trained at these two institutions also.

The General Medical Council have also accorded their recognition to the M.B.B.S. degree granted by the

Osmania University after 15th August, 1951, to persons who have undergone a course of study and examination at the Osmania Medical College, Hyderabad. The M.B.B.S. degree of the Osmania University is recognised retrospectively by this Council i.e. since 1932. Under the direction of your Executive Committee, the matter has been reported to the Central Government for action as they might deem fit.

The question of recognition of the M.B.B.S. degrees granted by the Universities of Mysore and Karnatak is still under the consideration of the General Medical Council. In the case of Karnatak University, it has been intimated by the General Medical Council that the matter would be considered by their Executive Committee at the November meeting while in the case of Mysore University they have demanded the recent inspection reports. Such an inspection is being arranged and the inspection reports would be supplied in due course.

It is, however, regretted that the General Medical Council could not see their way to giving retrospective recognition to some Indian qualifications in the same manner as they have been recognised under the Indian Medical Council Act. For your information I quote below the latest communication received from the General Medical Council :

"The President desires me to explain that the Executive Committee have carefully considered the suggestions made in your letters of October 14, 1957, and June 18, 1958. These appear to amount to a request that the General Medical Council should agree to recognise automatically any qualification which might be included in the First Schedule to the Indian Medical Council Act. The Committee were aware that new qualifications might be included in that Schedule by the Government of India contrary to the advice given by the Medical Council of India, and that indeed some qualifications had been so included when granted during the periods in respect of which the Medical Council of India had found themselves unable to recommend recognition. The Committee also took into account that, whereas no new Medical Colleges or Universities with Medical Faculties have been established for many years in the United Kingdom, a large number of new institutions have been established in India in recent years, and this process is still continuing. From a practical point of view, therefore, the position in the two countries is widely different, since almost the whole of the problem in relation to the recognition by this Council of Indian qualifications has concerned the degrees granted by new Colleges, or by recently upgraded Schools.

As explained in the letter sent to you on December 30, 1957, the General Medical Council have a statutory duty to satisfy themselves as to the sufficiency of any qualification to which it is proposed to accord recognition under Section 20 of the Act. In pursuance of this obligation the Council have considered it to be incumbent on them, before granting recognition to any new institution, to satisfy themselves as to the sufficiency of its qualifications either by themselves sending Visitors to report on it or by obtaining and considering Reports made by Inspectors appointed by the Medical Council of the Country concerned. This policy has been followed in respect of all countries, and indeed Visitors appointed by the Council will shortly be visiting a new University in Western Australia which has requested the Council to recognise its medical degrees. The recent recognition of qualifications granted by Makerere College, in Uganda, was preceded by no less than three Visitations on behalf of the Council.

While therefore the Council are very far from being unappreciative of the work done by the Medical Council of India, and indeed have noted carefully the opinions expressed by your Council in regard to the dates from which degrees should be recognised, they remain unable to divest themselves of their statutory responsibility under which they must consider and determine individually, as occasion arises, the qualifications granted by different Universities and Institutions which may appropriately be recognised under the Medical Acts of the United Kingdom.

The President trusts that, in the light of the explanations given in this letter, your Council will appreciate the reasons which have led the Executive Committee to this decision."

The above are the reasons put forward by the General Medical Council for their stand to accord recognition only after they have satisfied themselves in each case and not agreeing to the proposal of this Council to recognise automatically the qualifications included in the First Schedule to the Indian Medical Council Act, 1956. The matter was considered by your Executive Committee at its meeting held on 26th July, 1959, and it was felt that while the General Medical Council is pressing and demanding for the inspection reports in each case in respect of the recognition of Indian qualifications by them, they had not complied with such a request of this Council during 1938-39 in relation to recognition of certain Irish qualifications by the Medical Council of India. These reports were made available to this Council in 1940 when the recommendations of this Council in the matter were forwarded to the Central Government. The matter is receiving the consideration of the Executive Committee.

While the Council was directed under the Act of 1933 to negotiate for reciprocity with the authorities in other countries having a medical register, it was not given any such Register. Therefore, in the working of the Act the position of the Council was found to be very anomalous.

In 1937 the Schedule of recognised foreign qualifications was revised and a footnote was given in respect of those countries or States which did not agree to reciprocate with India whereby their qualifications were recognised under the Act when granted on or before the 31st October, 1937. In October, 1940 the Council did not favour indirect reciprocity, i.e., through the General Medical Council of United Kingdom and on its recommendation the Schedule was further amended whereby the qualifications of all those States and countries who did not agree to direct reciprocity were recognised only when granted on or before the 31st March, 1942. In March, 1947 the Council decided to open up reciprocal relation with America and China as well. As Dr. B. C. Roy was visiting various countries at that time, he was authorised by the Council to take the opportunity for examining the conditions of medical practice in these countries and the standard of medical qualifications granted there and to explore the possibility and basis for establishing reciprocity. In the light of further developments the Council continued its negotiations with foreign countries for a fair scheme of reciprocity. Although some countries were prepared to have reciprocity through the General Medical Council, we adhered to accept reciprocity only on direct basis. I am glad

these countries have now started appreciating our stand and we have succeeded in establishing direct reciprocity with some countries and I trust others will follow suit. The Council will no doubt continue its efforts not only to further improve our standards in medical education but also to have fair and honourable schemes of reciprocity with other countries. India is now an Independent Country and it behoves us to see that reciprocity in the matter of recognition of medical qualification is not to be dependent on recognition through any body or any agency other than the Medical Council of India.

More or less similar difficulties as we have had with regard to reciprocity were felt by the General Medical Council also and that Council was requested to send a copy of their letter which they had addressed to their licensing bodies in this connection and the copies of the replies received by the Council from these bodies but they politely refused. I find that still there are countries who insist on indirect reciprocity. This position gave rise to the following important question whether and to what extent the scheme of indirect reciprocity, viz., through the General Medical Council should be endorsed and what prevents these states and countries from negotiating directly with the Medical Council of India? Why do they desire recognition through the General Medical Council? Our experience has amply proved that indirect reciprocity is unworkable and detrimental to the recognition of the Indian degrees abroad. Therefore, the Council has very rightly stuck to its decision of the 26th October, 1940 to discontinue indirect reciprocity. Further even indirect reciprocity has ceased to be a reciprocity as it could be initiated under Section 12 of the Act and the question of developing schemes of reciprocity with other countries cannot be solved by merely appealing either to the sentiments on the one hand or to dry rules, laws, etc., on the other. Moreover the very divergence of the countries, the great distances between them not merely in thought and standards but also geographically make it difficult to bring real reciprocity in being. I, therefore, suggest that there should be some media which may not enjoy statutory authority, yet it might act in an exploratory and advisory capacity and bring about cordial relationships among the countries. This body should point out the desirability of having reciprocal relation among the various countries and as far as possible prevent countries among whom reciprocity has been established from deviating from its general principles by subsequent legislation or otherwise.

For this purpose and in order to bring about adjustment and harmonious relationships between the reciprocating countries as also bringing more countries into reciprocal schemes, periodical conferences may be arranged for providing exchange of views on matters of mutual interest. Such Conferences should include representatives of all competent authorities in the various countries. These periodical conferences would, in my opinion, go a long way to solve many problems of mutual interest and to start with, a conference of Commonwealth Countries may be initiated to bring about amongst them proper reciprocal relations in the matter of recognition of medical qualifications on direct basis. Medical Science knows no barriers, geographical or political, and the conference of Commonwealth representatives would form a nucleus for bigger conferences in future of all other countries. I commend this proposal for your serious consideration as it would not only create the much needed understanding but will bring the various countries closer to each other and enable them jointly to promote the interests of medical research; medical education and medical practice for the good of mankind.

As already intimated to you we are trying to explore all possible avenues to establish reciprocity for recognition of medical qualifications with other countries and I am glad to bring to your notice that the question of reciprocal recognition of medical qualifications between India and the Federal Republic of Germany has entered into its final stage. We had received a communication from the Central Government forwarding therewith copies of the correspondence with the German authorities in the matter and your Executive Committee at its meeting held on the 28th March, 1959, agreed to recognise the German Medical qualifications provided the Indian qualifications recognised by this Council and included in the First Schedule to the Indian Medical Council Act, 1956, are *ipso facto* recognised by the German authorities. The above decision of the Executive Committee was forwarded to the Central Government and in reply the Government had intimated that Indian doctors holding medical qualifications obtained from medical colleges recognised by the Government of India are permitted to practise Medicine in the Federal Republic of Germany without their previously having to appear in any examination. Further enquiries regarding clarification of certain points were made from the Central Government. As directed by the Central Government, the matter has been taken up with the corresponding authorities in Germany and their reply is awaited. I hope before long reciprocity in the matter of mutual recognition of medical qualifications would be established between the two countries. The matter when finalised would be placed before you for approval.

I had briefly reported to you in my last address the position with regard to the establishment of reciprocity between India and the United States of America. Since then, we have been able to get some information from the American authorities but no appreciable progress could be made. We have requested the authorities in the United States of America to furnish us some more information, which is expected soon. However, in the meantime, the Government of India have issued notification recognising the F.A.C.S. qualification granted by the American College of Surgeons for appointment to administrative posts. The Director General of Health Services had also referred the question of recognition of this qualification for teaching posts but your Executive Committee did not agree to the proposal and decided that the cases of the holders of this qualification for appointments as teachers be referred to this Council for consideration of each case on its individual merits.

Some countries like South Africa, South Australia, New South Wales, etc., are still pressing for mutual recognition of medical qualifications through the General

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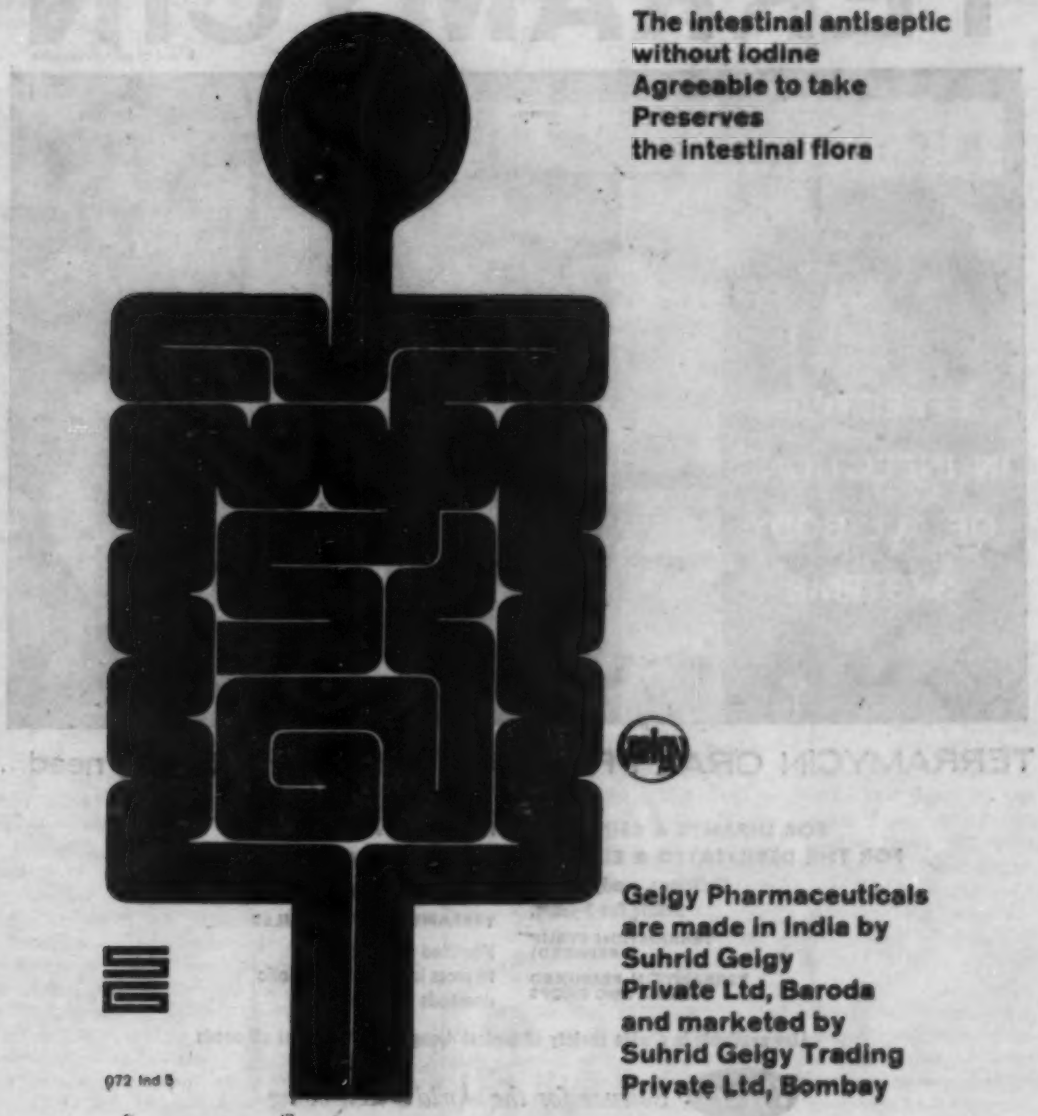

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Medical Council of United Kingdom to which the Executive Committee, however, did not agree. The Executive Committee adhered to the previous decision to establish reciprocity only, on direct basis.

As you are aware the question in respect of specification of names of medical colleges against the qualifications granted by the Universities in India in order to make distinction between the approved and unapproved Medical Colleges, has been engaging the attention of this Council for some time past. In their latest letter the Government of India have desired that the question of recognition of medical qualifications with reference to colleges at which the students have received training and not with reference to the Universities which grant the qualifications might be placed before the Council after it has been reconstituted in accordance with Section 3 of the Indian Medical Council Act, 1956, and the recommendations be forwarded to the Ministry of Health in due course. As desired by the Government and decided by the Executive Committee the matter would be placed before the new Council when constituted.

In 1953 while considering the matter relating to the recognition of certain post-graduate medical qualifications granted by the Universities of Poona and Gujarat, your Executive Committee had decided that the new Medical Colleges should not be allowed to impart post-graduate training until after two years from the date when the first batch passed the M.B.B.S. examination from that college, as in the opinion of the Executive Committee a college which was not even approved for undergraduate teaching and which was still in the process of its development might not afford proper facilities with regard to accommodation, equipment, apparatus, staff, etc., for the training at the post-graduate level. G. S. V. M. Medical College, Kanpur wrote to the effect that they might be allowed to start such training at that college, as a special case as they were fully equipped for imparting post-graduate training. Your Executive Committee appointed a Sub-Committee consisting of Dr. T. N. Banerji, Dr. B. Narayana and the late Dr. B. N. Banerji, to inspect the facilities then existing at that college and to report as to the efficiency or otherwise of that college in the matter of training of post-graduates *vis-a-vis* the facilities provided. In view of the satisfactory character of the reports submitted by this Committee, your Executive Committee at its meeting on the 28th March, 1959, decided to allow G. S. V. M. Medical College, Kanpur to start post-graduate training as a special case. Of late it has come to our notice that there are Universities who have started to impart post-graduate medical training without any reference to this Council. For example according to our information the Delhi University is awarding post-graduate degrees since 1951. We had no intimation to this effect before this nor was any request made till recently by the University to the Central Government or to this Council seeking the recognition of these qualifications by this Council. You may well imagine of the fate of the candidates who had obtained these qualifications when they are not backed by the recognition of this Council and in the absence of their inclusion in the First Schedule to the Indian Medical Council Act. The matter was considered by your Executive Committee in July last and they decided that their decision with regard to the permission granted to the Kanpur Medical College, be circulated to all the Medical Colleges and Universities with the remarks that the Kanpur Medical College has been allowed to impart post-graduate training not only as a special case but after proper inspection by the Visitors appointed by the Council and that the Executive Committee desires that any University or Medical College intending to start such training should inform this Council before doing so to enable the Council to ascertain whether proper arrangements have been made before starting such post-graduate courses for degree or diploma.

In August, 1958, we received a representation from the R. M. P. Association, Nagpur regarding upgrading of Medical & Health Assistants Course at the Robertson Medical School, Nagpur, up to L.M.P. Course of the M. P. Government (now Bombay Government). This course is of three and a half years' duration. Your Executive Committee considered the matter in October, 1958, and decided that it was against the accepted policy of the Medical Council of India and the Government of India to continue three years course of R. M. P. You will recollect that Dr. Husain, an ex-Minister of Madhya Pradesh, had explained to you in this regard in October, 1958. The matter was again referred to me by the Bombay Government. The Executive Committee at its meeting held on the 26th July, 1959, went through the pros and cons of the matter and was of the opinion that there should be no more Schools for Licentiates either started or allowed to continue as the number of Medical Colleges has increased from 19 to 51 during the last decade. As regards the future of the candidates so affected the Executive Committee desired that the persons who had already obtained the D.M.P. qualification and whose qualifications had been recognised by the Vidarbha Medical Council might be asked to undergo a further training of two years and also be asked to appear at an examination conducted by the State Government. The above resolution of the Executive Committee is being placed before you for your consideration and approval.

On receipt of a request from one Mr. S. P. Sookraj, a Cultural Scholar from British Guiana, who is studying for his M.B.B.S. degree at the Nagpur Medical College, to allow him to take up his post-examination training, as envisaged in the medical curriculum laid down by this Council and adopted by the Nagpur University, at the Georgetown Hospital, British Guiana, your Executive Committee decided that according to the Council's recommendations internship is a part of the training for the award of M.B.B.S. degree and thus one cannot be registered as a medical practitioner unless one has completed the training. As such the full training must be in India.

Section 13 (3) of the Indian Medical Council Act, 1956 provides for the registration of qualifications included in Part II of the Third Schedule to the Act when held by Indian Nationals provided they have undergone such practical training as may be required by the rules or regulations enforced in the country that grants the qualifications or such practical training as may be

prescribed under the provisions of the Indian Medical Council Act, 1956. Many cases of registration are pending with the State Medical Councils for want of prescribing the period of such practical training in the case of holders of these qualifications who have not undergone any practical training in the country awarding the qualifications. The matter was considered by the Executive Committee at its last meeting and their recommendations in the matter are being placed for your approval.

This Council has been entrusted with the maintenance of an All-India Medical Register, which shall bear the names of all those persons who are for the time being enrolled on any State Medical Register and possess recognised medical qualifications included in any of the Schedules to the Indian Medical Council Act, 1956, in the prescribed form. As such we have to decide the form in which the Indian Medical Register would be maintained. Unless the form is decided upon, the compilation of the Indian Medical Register cannot be taken up. In this connection I may point out that the names of about a lakh of persons with necessary particulars would be included in this Register which is bound to be a big volume. Moreover, we have to take the information from the various State Medical Registers. The compilation of the All-India Medical Register would, therefore, take a good deal of time in view of its tremendous and laborious character. The recommendation of the Executive Committee in the matter after taking into account the size and volume of the Indian Medical Register and the perusal of the various State Medical Registers are being placed before you for your approval.

As you are aware in the interests of medical education and medical relief in the country, the Council adopted a special resolution in 1950 for the registration of foreigners holding non-scheduled medical qualifications. Of late, as authorised by the Executive Committee I have been dealing with such cases as and when received. Such persons were usually allowed registration with the State Medical Councils for a period of five years in the first instance or for the period of their present employment whichever is shorter provided they did not engage themselves in private practice for personal gain, and which could be renewed later on. Now a specific provision has been made under the Indian Medical Council Act, 1956 under Section 14 for the registration of such persons. The new Act having come into force with effect from 1st November, 1958, it was not permissible to decide these cases under the above special resolution of the Council. The pending cases of foreigners with non-scheduled medical qualifications were considered by your Executive Committee in the spirit of Section 14 of the Act, and their recommendations are before you. Similarly, the question of recognition of some Pakistani Licentiate qualifications as held by some Indian Nationals is also being placed before you for your consideration and approval.

Consequent upon a reference received from the Union Ministry of Health, inviting views of the Medical Council of India in respect of the resolution passed at the Seventh meeting of the Central Council of Health held at Shillong in January, 1959, with regard to the proposal to regulate and register medical and public health laboratories, dental clinics, nursing homes and physiotherapy centres, the Executive Committee decided that such a control was desirable and it should be exercised through Central Legislation, as according to the explanation given in support of the above resolution of the Central Council of Health, it was revealed that while practice in different systems of medicine was regulated by the relevant Acts passed by the Central or State Governments, no such legislation had yet been enacted to regulate and register medical and public health laboratories, dental clinics, nursing homes and physiotherapy centres which played a very important part in the diagnosis and treatment of various diseases. Moreover, it is essential that they should be of such a standard as to meet the needs of services expected of them and it needed to be ensured that no person other than one who had special training in Chemistry, Serology, Pathology or Bacteriology was doing this work and that adequate and suitable equipment was available for such laboratories. The recommendations of the Executive Committee in the matter are being placed before you.

In October, 1958, the Central Government intimated that the Informal Consultative Committee of Parliament for the Ministry of Health had suggested that the rules for the admission of students to the various medical colleges should be made uniform in all States and that they be adopted in such a way that those who were better qualified got admission in preference to those who were less qualified but who under the existing rules or orders got admission on the basis of district or regional quotas. The Central Government invited the views of the Council with regard to fixing a minimum pass percentage in the pre-medical examination. Your Executive Committee appointed a Sub-Committee consisting of Dr. B. Narayana, the late Dr. B. N. Banerji and Dr. P. K. Ghosh to go into the matter and make recommendations. On receipt of their report, the Executive Committee decided to accept their recommendations that 45 per cent marks obtained at the Intermediate examination in Science should be the minimum required either for admission to a Medical College or even for the eligibility to sit at any special competitive examination for the purpose of admission except in the case of Scheduled Castes and Scheduled Tribes. The decision has been conveyed to the Central Government as also all the State Governments, Universities and Medical Colleges for their information.

The Prime Minister Shri Jawaharlal Nehru at the inaugural function of the Silver Jubilee Celebrations of this Council in February this year, stressed on the desirability on the part of the medical profession to serve in the rural areas if not permanently, at least for a specific period especially in the case of new entrants to this noble profession which would be a great achievement for the cause of preservation and improvement of the health standards of the country as the bulk of the Indian population reside in rural areas comprising about 800,000 villages. In order to give practical shape to this suggestion, I moved the following resolution at the Executive Committee meeting in March, 1959:

"The Council resolves to recommend to the Central and State Governments that while selecting the can-

didates for admission to the medical colleges, they will introduce a system of undertaking from the students that they shall serve for a period of three years as directed by the Government in rural areas or otherwise on a scale of remuneration commensurate with their qualifications."

As approved by the Executive Committee, the above resolution was circulated to all concerned for eliciting their views in the matter. We have been receiving replies from the various Universities, Medical Colleges and Governments. The matter would be further considered by the Executive Committee in the light of replies received and final recommendations to the Central Government would be placed before you in due course for your approval.

A communication was received from the Ministry of Health on 19th April, 1950, regarding the increased number of medical men required in the country during the period of the Third Five Year Plan. In this connection I may state that the annual output of medical graduates in the country is hardly sufficient for its needs. On an assumption of 100 medical graduates annually from each medical college, the total output comes to 5,000 which number is inadequate for the evergrowing needs of the country. It needs at least be doubled. For this purpose the number of colleges and that of admissions to the existing ones required to be increased. For this purpose more teachers are needed especially in the pre-clinical subjects. Perhaps this shortage can be met with to some extent by creating central pool of teachers and providing them facilities for training at the various centres in the subjects of their choice. On completion of this training the services of such teachers can be utilised in the various institutions both existing and those that might be started. Besides the availability of qualified and trained teachers, the question of providing equipment, apparatus and above all the hospital facilities requires serious consideration. There are places in the country where hospitals suited to the requirement of medical colleges, subject to minor adjustments, are already in existence. These institutions can serve the needs of the country in the matter of providing facilities to train medical graduates, while there are hospitals which can serve our needs after making some necessary improvements. All possible avenues have to be explored with a view to providing facilities of post-gradnate training in India or abroad. As an immediate measure, the desirability of opening a few institutions at different central places on the lines of the All-India Institute of Medical Sciences, might be taken into consideration by the authorities. Another reason which is responsible for not attracting suitable young men and women to take up the teaching profession is perhaps service conditions and scales of pay fixed for such appointments. As such the question of taking definite and concrete steps for improving the lot of medical teachers by way of improving the scales of their pay and providing amenities like pension, provident fund, gratuity, etc., which alone would bring in suitable talents to produce medical men both in quality and quantity, needs to be taken.

There is one more point which requires due consideration by the authorities that are responsible for the development of medical institutions in the country, that is, there are States or regions where there are a number of medical institutions while there are parts of the country where the number of such institutions is inadequate. The local people desirous of taking up medical studies are confronted with much difficulty in getting admissions in adequate numbers on the one hand and lack of proper medical relief on the other. In view of this anomalous position it is desirable that these areas should be provided with medical institutions which would not only train doctors to meet their demands but also provide medical relief to thousands of people. In case it is not possible to start a medical college in a particular area, arrangements for the training of personnel from that area in other States, where they are already doctors in abundance, are required to be made.

The matter was considered by the Executive Committee in May, 1950, and they were of the opinion that the question of increasing the number of medical men in the country could be dealt with by increasing the number of admissions in the existing medical colleges by 25 to 30 per cent and by increasing the number of colleges particularly in areas where there are fewer medical colleges than necessary.

It was further resolved that attempts should be made by the Medical Council of India to ascertain from various Medical Colleges which are recognised by this Council as to the total number of students they could admit having regard to the provision for clinical training, etc., as on the basis of this information it would be possible to work out as to the States which have got poor arrangements for medical training to send their students in the medical colleges of other States where arrangements are plentiful, so that those States which have got better arrangement should provide training to the boys of those States where medical training arrangements are inadequate.

In order to give effect to the above resolution, it was decided that the Central Government be informed of the final position with regard to the increase in the number of seats at the various medical colleges in India and this increase may finally be fixed by the Central Government in consultation with the Medical Council of India, and applications be invited for admission against these additional seats from the various States. States may be allocated these seats out of the pool so that the students from States where larger number of medical men are needed may be given preference in respect of admissions. The cost consequent for these extra admissions to the medical colleges may be met by the Central Government on the basis of additional requirements of the colleges concerned.

As directed by the Executive Committee each College was addressed with a view to finding out as to what extent it was prepared to increase the number of admission without undermining the standard of teaching and what additional facilities including equipment, and staff, etc., were necessary to meet the increase. The replies received up to the 20th July, 1950, were considered by the Planning Committee appointed by the Executive Committee and from the perusal of these replies it was revealed that most of them were prepared to increase

the number of admissions provided they receive Central assistance in the shape of capital and recurring expenses. There are altogether 51 medical colleges in India and if 50 students were admitted on an average in each college, it would mean 2,500 additional seats. Should we achieve this target coupled with the establishment of some new Colleges, I have every reason to believe that this would solve the problem to a great extent.

Regarding the training of teachers, the Executive Committee was of the opinion that the question is inevitably bound with the training of post-graduates which depends naturally on availability of training facilities. The training of teachers should be done in as many institutions as possible and not in one or two institutions only as such an arrangement will be quite inadequate to meet the needs of country as a whole. Besides, this will not only improve the under-graduate training but it will also provide larger facilities for the development of specialities in the different branches of study. The Executive Committee was also of the opinion that the training of teachers and post-graduate training should not be concentrated in central places but should be spread all over the country in order to get the maximum benefits. It is obvious that wherever there will be arrangements for a post-graduate training, the teachers will take advantage of the post-graduate training and therefore the training of under-graduates will improve as also the standard of treatment available to patients in those areas.

As regards the developments of post-graduate education, the Executive Committee decided to await the recommendations of the Post-graduate Medical Education Assessment Committee recently appointed by the Central Government under the Chairmanship of Dr. B. C. Roy, of which I am also a member. I hope this Committee will bring forward some tangible and workable propositions.

In accordance with the request made by me the Government of India have sanctioned another post of Assistant Secretary (Medical) in the scale of Rs. 600—30—750 with usual allowances. Arrangements are being made to fill this vacancy by a suitable person as also the vacancy caused by the resignation of Shri B. S. Raizada.

I hope this would be the last meeting of the present Council as the Council is likely to be reconstituted very soon. Many of our colleagues are expected to be returned to the new Council but there may be others who would cease to be the members of this Council after its reconstitution. I therefore, express my grateful thanks to all of you and especially those colleagues of ours who would be parting from us (in the deliberations of of this Council) due to its reconstitution. I again thank you all and hope you will realise my sense of gratitude for the kind co-operation extended by you to me during all these years of my Presidentship but for which it would have been difficult for me to carry out the tremendous task and responsibility attached to this high office.

I also thank the Secretary and the staff of the Council for their hard and ungrudging work especially for the Silver Jubilee Celebrations.

JAI HIND

NOTES AND NEWS

World Health Organisation

The Annual Report of WHO for 1959 for submission to the XIII World Health Assembly in May, 1960, reveals the following activities :

Malaria : Much effort was concentrated on the world-wide malaria eradication campaign so that in December, 1959, about 568 million people were being protected, while preparatory survey work was being undertaken in malarious areas inhabited by 168 million people. The eradication campaign was extended to the whole of India, the largest malarious area in the world. The second largest, Indonesia, had begun an eradication programme. In the third largest, Pakistan, a pre-eradication survey had been started. The fourth largest, Brazil, was carrying out a country-wide eradication project, and using medicated salt as the main weapon in the most difficult area of the country, the Amazon Valley.

Yaws : From 1950 to the end of 1958, 65 million persons were examined for yaws in the initial surveys made by governments with the help of UNICEF and WHO. Of these 22·5 million were treated, of whom over 6 million had clinically active yaws. In resurveys 86 million were examined and 5·9 million treated, of whom 2·9 were yaws sufferers. In large populations the prevalence of yaws had been reduced from ten per cent to one per cent.

Venereal syphilis : The disturbing recrudescence of venereal syphilis continued in some countries. An increase in incidence of 15 per cent over 1958 was observed in the U.S.A. New case-finding methods are being tried and diagnosis has been greatly improved by a technique developed in the WHO Serological Reference Centre (at the Venereal Disease Research Laboratory, Chamblee).

Gonorrhoea : The incidence of gonorrhoea increased in 15 out of 22 countries surveyed. This disease is growing as a public health problem, particularly in view of the increasing resistance of the gonococcus to penicillin.

Leprosy : Estimates of the total number of victims in the world range from 10 to 12 million, with probably about two million leprosy patients registered and about three-quarters of them under treatment. The number of patients in institutions is small, 216,000 and ambulatory treatment seems to be the only practical policy for many countries.

Tuberculosis : The introduction of anti-tuberculosis drugs in the last 15 years has made effective control of the disease a real possibility, but many practical problems remain to be solved. First findings on the domiciliary care of tuberculosis patients were reported from Madras, showing that chemotherapy at home may give as good results as sanatorium treatment in pulmonary tuberculosis. This is important for the many countries where the number of hospital beds is totally insufficient.

Poliomyelitis : Progress was made in the study of live attenuated poliovirus vaccines, administered orally. A conference on this matter took place in Washington, attended by 61 participants from 17 countries, during

which valuable information was produced. In the autumn of 1959, WHO made an evaluation of the extensive field studies undertaken in the U.S.S.R., using this vaccine. The total number vaccinated in this way in the U.S.S.R. by the end of the year was well over 12 million, and preliminary data suggested a satisfactory degree of effectiveness.

Public Health Services: Public health services are being expanded and improved everywhere in the world today, although there is wide variation in the level of achievement between countries. Essential to this progress is the training of more nurses and midwives to meet the always increasing demand. This need is reflected in government requests for WHO assistance, and about 27 per cent of the WHO field staff is nurses and nursing teachers.

Education and training: An important part of WHO's work in strengthening national health services is in training teachers. To assist in this development, 129 visiting teachers in 19 disciplines served a total of 1,158 months in 27 countries: They all endeavour to prepare local staff to carry on teaching functions afterwards.

In 1959, WHO awarded its 10,000th fellowship for studies and observations abroad. The total for the year was 1,431, of which 58 per cent went to physicians, 12 per cent to nurses and midwives, 7 per cent to sanitarians and 25 per cent to other health personnel. Fellows came from 112 countries, visited 89 countries: 22 per cent of them were women.

Environmental sanitation: The twelfth World Health Assembly decided that, although substantial advances had been made, the sanitary improvement realised until 1959 left no room for complacency. It sanctioned a programme for *community water supplies* as a useful point of attack that might open the way for later programmes on environmental sanitation. Since then a seminar has been held on the organisation and financing of community water supplies and a team of consultants was sent to India to prepare plans for improving the Calcutta water supply.

The Organisation has intensified its work on *insect resistance*: there are at least 50 species of insects of public health importance that show resistance to one or more of the insecticides used in WHO field operations. Many of them are important disease carriers.

Atomic energy and health: WHO devoted increased attention to the health aspects of ionising radiations and radioactivity and to related problems of human genetics during 1959. Since the need for health physicists and similar personnel becomes more acute as work with ionising radiations and radioactivity grows and the use of atomic energy expands, WHO's programme has continued to stress training. In addition to the award of fellowships, two special courses on the public health aspects of radiation protection were again organised in 1959, one at Saclay, France, and the other at Harwell, England.

Medical research: Two major developments took place in the field of medical research: the Twelfth World Health Assembly approved an overall plan for WHO's intensified research programme in the years to come, and, in the autumn of 1959, the Advisory Committee on Medical Research met in Geneva to provide the Director-General with the necessary guidance on future activities.

Facts and figures: Effective working budget for 1959 —$15,000,000; Membership—87 Members and 3 Associate Members; Total staff, November 30, 1959—1,908 of 63 nationalities; Headquarters Staff—603; Meetings—88 organisational meetings and meetings of expert committees and advisory groups; Expert Advisory Panels —38.

International Medical Advisory Bureau of B.M.A.

The Council of the British Medical Association has established an International Medical Advisory Bureau with a view toward welcoming and providing a personal advisory service to medical practitioners visiting the United Kingdom. The Bureau is located at British Medical Association House, Tavistock Square, London, W.C. 1.

One of the main objects of the Bureau is to welcome the overseas medical visitor, who is cordially invited to visit the Bureau as soon as possible after arrival and talk over with the Medical Director any points on which he may need advice or assistance.

Information is available at the Bureau on postgraduate education facilities and visits to hospitals and clinics can be arranged. Assistance will be given in finding suitable hotel and lodging accommodations. In addition, general information on cars, sports, travelling, exhibitions, theatres, etc., is available.

Visitors are urged to inform the Bureau of their intended visit to the United Kingdom as much in advance of their arrival as possible. Advance information as to date of arrival, mode of travel, length of stay, main objects of visit and special needs for assistance will enable the Bureau to provide the best service. Those wishing to visit hospitals or seeking advance about postgraduate courses should provide the Bureau with information as to professional experience.

All communications should be sent to: The Medical Director, International Medical Advisory Bureau, Tavistock Square, London, W.C. 1, England.

Typhus Cases Down in 1959

Louse-borne typhus cases, which were counted in the millions after the first World War, and in the hundreds of thousands after the second, amounted to only 5,800 in 1959, according to provisional notifications recorded in the Weekly Epidemiological Record of the World Health Organisation (WHO).

This represents a decrease of more than a thousand cases from the 1958 figure of 6,960.

The Nutrition Society, London

The following is the programme of a symposium to be held at Rothamsted Experimental Station, Herts, on Saturday, 2nd July, 1960 on Food Losses in Field and Store.

Mr. N. W. Pirie, F.R.S., will preside.

Mr. F. G. W. Jones: (Rothamsted Experimental Station) will speak on "Root damaging nematodes";

Mr. M. J. Way: (Rothamsted) on "Crop damage by insects and the problem of control"; Mr. G. V. B. Herford: (A.R.C. Pest Infestation Laboratory, Slough) on "Insect damage to grain during storage"; Mr. R. C. Large: (M.A.F.F. Plant Pathology Laboratory, Harpenden) on "Virus damage to potatoes"; Mr. F. B. Leech: (Rothamsted) on "Losses through animal diseases".

The C. H. Milburn Prize (1960)

The British Medical Association announces the above prize which is offered for the first time in 1960 and is of £100 in value. Any registered medical practitioner is eligible to compete.

Entries which close on October 31, 1960 must consist of original and unpublished material and preliminary notice of entry is required. Forms and further partilars may be obtained from The Secretary, B.M.A. House, Tavistock Square, London, W.C. 1.

Czechoslovak Congress of Rheumatology

The Czechoslovak Society of Physical Medicine is holding the CZECHOSLOVAK CONGRESS OF RHEUMATOLOGY with international participation from September 21st—25th, 1960 in Piestany, the world-famous spa.

The main subjects will form the principal part of the programme: Rheumatoid arthritis and Ochronotic arthropathy. A certain amount of time is reserved for subjects of free choice.

Papers will be read by leading research workers from Bulgaria, Denmark, Finland, France, Germany, Great Britain, Hungary, Italy Norway, Poland, Rumania, Soviet Union, Sweden, U.S.A. and Czechoslovakia. The official languages of the Congress are English, French, Russian, German, Czech and Slovak. Simultaneous translation to and from the official languages will be provided.

Further information may be obtained from the Secretariat of the Czechoslovak Congress of Rheumatology, Praha 2 Na slupi 4.

International Congress of History of Medicine

The XVII International Congress of History of Medicine shall meet at Athens and Cos on September 4-14, 1960 under the patronage of Professor Couzis of Athens.

This Congress, under the auspices of the Faculty of Medicine of Athens shall be presided over by Prof. Spyridion Oeconomos of Athens. The subjects for diesion would be: 1. Hippocrates and his school. 2. The School of Alexandria. 3. Byzantine Medicine. 4. Other subjects.

The programme includes visits to Museums, excursions to Crete, Rhodes, COS, with a session at Aesculapian, to Knossos, Delphes, Epidaurus, etc., and other centres of ancient Greek Medicine.

Asia-Pacific Academy of Ophthalmology

The first congress of the Academy, under the aegis of the Philippine Ophthalmologic Society will be held on October 10-13, 1960, at the University of Philippines Medical Centre. The theme of the Congress is Blinding Diseases of Asia-Pacific regions. The office language is English. There will be guest lecturers from India, Australia, Japan, the United States and European countries. Further details may be obtained from the Secretary of the Asia-Pacific Academy of Ophthalmology, C/o. Clinica Tameses, 42 Quezon Boulevard Extension, Quezon City, Philippines.

Medical Uses of Radiation

Dr. H. J. Bhabha, Chairman of the Atomic Energy Commission, inaugurating a six-week training course on "Safety in the medical uses of Radiation" on April 4, 1960, said that radiation applications in medicine had made the most rapid strides in the country, and it was particularly appropriate that the first all-India course organised by the Atomic Energy Commission should relate to the safety aspects of the medical uses of radiation.

In order to ensure radiation safety on a countrywide basis, the radiological measurements section has been set up as a part of the Health Physics Division of the Atomic Energy establishment at Trombay.

Describing the various steps that they were taking to minimise the potential hazards arising from the countrywide use of radiation sources, Dr. Bhabha said "One of the most important aspects of any radiation protection programme is to keep regular records of radiation doses received by all radiation workers. To this end, a countrywide film badge service has been organised. This service covers all types of radiation including fast and slow neutrons. Whenever the doses are found to be excessive in any institution, we conduct a radiological protection survey of the institutions in order to investigate the cause leading to such over exposures. The advice tendered verbally or during surveys and in the form of written reports, has invariably resulted in the improvement of working methods. This has, in turn, led to a significant lowering of personnel exposure levels."

Baby Food to be Made in India in the Co-operative Sector

India's first project to make baby food is well under way at Amul Dairy at Anand, set up by the Kaira District Co-operative Milk Producers' Union Ltd.

Eighty per cent of the machinery required for the project has already arrived at Anand and was inspected by Prime Minister Nehru recently when he visited the Amul Plant, on his way to Cambay.

A distinctive feature of the baby food to be manufactured at Anand is its formula, which has been perfected after a series of experiments and research work extending over a year by The Central Food Technological Research Institute, Mysore.

Baby foods are at present imported from abroad and constitute a heavy drain on India's foreign exchange resources. Besides, there is a scarcity of baby foods in the country, resulting often in exorbitant prices.

Health Survey of India Planned

The Minister of Health, Mr. D. P. Karmarkar, told the Lok Sabha on April 6, 1960 that the Government proposed to have a thorough health survey of the whole country.

Mr. Karmarkar said that the survey would first be confined to a limited population. It would then be extended to the capital and later on to the States with their co-operation. The survey would give a correct picture of the diseases in the country and the remedies to be undertaken.

Medical Examination of School Children

The importance of a balanced diet, environmental hygiene, medical check-up at school and a follow-up at home for children was stressed by the Union Ministers of Health and Education in New Delhi on 1-4-60.

Inaugurating his Ministry's School Health Committee at Vigyan Bhavan, Mr. D. P. Karmarkar, Health Minister, said the absence of adequate measures for the care of school-going children was due to insufficient realisation of their importance and limited financial resources. But a beginning, even if modest, must be made, he pleaded.

Dr. K. L. Shrimali, who presided, asked the community and the local bodies to co-operate with the State in grappling with the major problem of malnutrition of school children and for ensuring a follow-up at home of medical service rendered to a child at school.

Cautioning the Committee, Dr. C. Mani, Regional Director of the World Health Organisation, said medical examination of children at the schools should not be the major component of a health scheme. "Millions of medical examinations have been carried out and tons of data collected, but we still find all the diseases among the children."

Mr. T. G. Davies, Area Chief of the UNICEF, suggested that India should seriously contemplate a school lunch programme within the available means. He said there was every merit in teaching the children what formed a balanced diet. But to achieve the best results, a lunch at the school itself should follow.

The Chairman of the Committee, Mrs. Renuka Ray, M.P., urged the Government and the Planning Commission to provide adequate financial resources for school health service in the third Plan.

Although children of school-going age formed a third of the population, she said, school health programmes did not exist in most parts of the country.

CORRESPONDENCE

The Editor is not responsible for the views expressed by correspondents

Arbitration Award for Coal Industry 1959-60 (Das Gupta Award)

SIR,—The long awaited Arbitration Award for the Coal Industry 1959-60 has been received by the medical officers in colliery services with a mixed feeling. The Award has rendered minor relief to a section of medical officers in the collieries and some form of grade system has been introduced, and the colliery medical officers in general have now been recognised as workmen. And because of confusion and inconsistency, the rest of the Award has been a matter of disappointment.

Due to shortcomings of the trade union organisations in putting forward realistic counter-arguments to match those submitted by the Employers' organisation, the arbitration has adversely affected the interest of workmen in general, and the colliery medical officers in particular.

We invite the attention of the I.M.A. to the points mentioned below:

1. The Arbitrator appears to have accepted the arguments of the Employers' Association that like other citizens the health and medical aid of all employees is the responsibility of the State, and not of the employers. The latter has statutory obligations to treat only minor accidental injuries by a qualified compounder cum dresser. They have no obligation to employ whole- or part-time medical officers or to maintain dispensaries.

The Mines Regulation, Chapter VI, Section 43, subsections (4) and (5) read together with Jharia Mines Board of Health Bye-law 27 with the general order in connection thereof and similar Bye-laws of the Mining Settlement Act in other provinces, provides adequate legal provision and imposes adequate statutory obligation on the Employers to employ whole-time/part-time medical officers, with maintenance of dispensaries for the medical aid of the employees—the standard of which is dependant on the strength of the employees.

The observation has been made in the Award that employment of medical officers and maintenance of dispensaries so far done by certain employers, are only gestures of goodwill and generosity, and not statutory obligations.

2. In the same issue of the Award (issue No. 11) paragraph 6, page 59, it is pointed out that the Award aims at fixation of the grade for the job, and not for the man doing the job.

Previously the colliery dispensaries were managed by licentiate doctors. It is only recently that medical graduates have been introduced in some collieries. The nature of the work has not changed, only the personnel have changed. It is, therefore, curious to find that the Award's fixation of grades has been separate for licentiates and medical graduates.

3. Casual comparison has been made regarding the nature of responsibilities shouldered by dispensaries run by the government and the district boards with those of the collieries. This aspect of comparison and drawing conclusions as also the fixation of grades have only led to wrong estimation, more imaginary than scientific.

For more than half a century the employees of the collieries have been receiving free medical aid, both at the colliery dispensaries and at the houses (quarters and *dhawrahs*) of the employees.

The concept of receiving free medical aid by people under government and district board dispensaries is not comparable with that of colliery employees. While in case of district board and government dispensaries free

medical aid is confined to the dispensaries only, and the doctors have been given the liberty to charge fees for visiting the citizens in their home, in contrast to the colliery people who can demand the doctor's visit free at their residence also.

It has been argued in the Arbitration Award, that medical aid in district board and government dispensaries covers an extensive area in comparison to limited area of collieries. But the service in the colliery is heavy, hazardous and continuous for 24 hours, in contrast to the former which is less heavy, less hazardous and confined to limited hours of the dispensary only, with the liberty to charge fees for domiciliary visits.

I would specially appeal to the trade union leaders to take up the cause of the colliery medical officers. I am etc.

Kendwadih Colliery,
P.O. Bhaga, B. D. MOJUMDAR.
Dist. Dhanbad.

REVIEWS

Therapeutic Radiology—By William T. Moss, M.D. 1959, C. V. Mosby Company, U.S.A.; 6¾" × 9¼"; pp. 403; price $12.50.

In commenting on this book I feel I am writing a review of a review on the present position of radiotherapy in relation to cancer. It is not like a standard text book. But it has ably presented what we miss in an ordinary text book, a rationale of treatment based on a clear knowledge of radiobiology. The preliminary discussion on the reaction of radiation on different tissues before dealing with radiotherapy of malignant diseases of the regions has been unique. Added to this are the statistical computation of results of radiotherapy at different regions of the body as practised in different organised centres all over the world, and a suggested rational approach.

The language is clear and facts well co-ordinated.

The author has combed volumes of literature old and new to give us in a gist the salient and important features that count in modern radiotherapy for which he should be congratulated.

S. BOSE

Mental Retardation—By Hans Mautner. 1959, Pergamon Press, London; 8½" × 5½"; pp. 280; price 25 shillings.

As expressed by the author in the preface it is not a text book on mental retardation but a collection of lectures on the subject. The contents of the chapters make interesting reading with a fair selection of informative materials. Some important facts of the new field of "Oligophrenology" are dealt with in a distinctive manner. The author lays special emphasis on the physiological base, care and treatment of this malady. Central autonomic regulation receives special attention of the author. Embryopathy is discussed in instructive details. Some of the chapters are condensed, understandably to limit the bulk of the book. However, a few of them could probably have been improved if the subjects were dealt with with special reference to mental retardation rather than as a compressed summary of the disease entity. As an example, in the section of Epilepsy, clinical features including treatment occupy almost the whole of the chapter while the relation of epilepsy to mental retardation is dismissed in a few sentences. Apart from these minor, probably unavoidable handicaps, the book is attractive, enjoyable and instructive. It admirably denotes the gains made in the field and points to the problem till unsolved. A carefully selected bibliography at the end of each chapter is a commendable feature. The book will be of particular help to workers in the field of mental retardation.

T. K. GHOSH

Atlas of Roentgenographic Measurement—By Lee B. Lusted, M.D. and Theodore, E. Keats, M.D. The Year Book Publishers Inc., 200 East Illinois Street, Chicago, U.S.A.; 7" × 10¼", pp. 176; price $9·00.

Roentgenography affords us a modern tool in the study of anatomy in the living, and measurement is naturally a part of it. The authors have collected statistical data from many places to give us a treatise in the method of measuring the different parts of the human body. In the beginning, they have discussed the geometrical principles of enlargement seen in skiagrams and how to find out the true measurement from these. The monogram on pelvimetry is really very useful and does away with many complicated methods in vogue. Two things need stressing in roentgenographic measurement. The positioning must be perfect. Also in cases of measurement of minute structures, e.g., the distance between the odontoid process and the arch of the atlas, the focus should be fine or the penumbra may confuse real measurement. The authors should be congratulated for bringing out a book like this for which there was a longfelt want and which, it is thought, should be in every medical library as a reference book.

S. BOSE

1959-60 Year Book of Medicine—By Paul B. Beeson, M.D., Carl Muschenheim, M.D., William B. Castle, M.D., Tinsley R. Harrison, M.D., Franz J. Ingelfinger, M.D. and Philip K. Bondy, M.D. 1959, The Year Book Publishers, Inc., 200 East Illinois Street, Chicago, U.S.A.; 7½" × 5"; pp. 733; price $8.

It is a delusion that we have less time for reading than our predecessors. A practising physician needs an authoritative summary incorporating the advances of medicine and Year Book of Medicine fulfils this task adequately. Most of the summaries have been well done and criticisms by the editors are stimulating. The volume is sub-divided into six parts. The extension of the metric system by the international committee on nomenclature of haemorrhagic factors is a useful simplification and as a teacher the reviewer likes it. The book is well produced and clearly printed.

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SUPPLEMENT

Journal of the Indian Medical Association

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BRANCH NOTES

AGRA BRANCH—A meeting was held on 27-2-60 under the presidency of Dr. T. C. Basu Chaudhury. Two minutes' silence was observed on the sad death of Dr. G. N. Vyas, a member, Dr. Lekh Raj Singh, an ex-member and Mrs. B. L. Patne wife of a member. Dr. K. P. Dixit gave a talk on Infections of the Respiratory Tract in Infancy and Childhood. Later he demonstrated some interesting cases. Dr. S. K. Das demonstrated a case of mental deficiency.

ANDUL BRANCH—At the annual general meeting held on 3-1-60, the following office-bearers for 1959-60 were elected: President—Dr. N. Bhattacharjya; Vice-Presidents—Dr. L. N. Sah, Dr. R. B. Chatterjee; General Secretary—Dr. J. K. Ghose; Asst. Secretaries—Dr. N. Sett, Dr. P. K. Banerjee; Treasurer—Dr. B. B. Mitra; Central Council Member—Dr. J. K. Ghose.

ANAMALLAI BRANCH—A clinical meeting was held on 21-11-59 with Dr. (Mrs.) Dissawalla in the chair. Dr. K. S. Menon spoke on Anaemias. A sum of Rs. 41·00 was sent to hony. general secretary, I.M.A., Delhi, for relief in W. Bengal.

A meeting was held on 19-12-59, Dr. (Mrs.) Dissawala presiding. Dr. B. Ramakrishniah gave a talk on Diphtheria.

A meeting was held on 23-1-59. Dr. (Mrs.) Dissawala presided. Dr. M. A. Razak gave a talk on gout. As Dr. (Mrs.) Dissawala was going on leave, Dr. Razak was elected president in her place.

BEZWADA BRANCH—The annual general meeting was held on 15-3-60 with Dr. T. V. S. Chalapathi Rao, President, in the chair. The annual report presented by the Secretary was adopted. The following office-bearers for 1960 were elected: President—Dr. K. Atchamamba; Vice-President—Dr. N. N. Chary; Secretary—Dr. N. Satyanarayana; Treasurer—Dr. C. Pitcheswara Rao.

The annual report states that the strength stands at 60. There were 22 General Body and 7 Managing Committee meetings. Several lectures were given in the year. Among guests was the President of the I.M.A. Dr. C. O. Karunakaran. A refresher course was conducted and was highly spoken of. The 4th Yellapragada Subba Row lecture was given by Dr. C. Gopalan. A baby show was held. Sri Sanjeeva Reddi, the then Chief Minister of Andhra inaugurated the Refresher Course and laid the foundation stone of the proposed building of the Branch.

BOMBAY TERRITORIAL BRANCH—At a meeting of the Territorial Council the following were nominated to the Working Committee of the I.M.A.: Dr. R. V. Sathe with Dr. R. K. Shah as alternate member and Dr. Arvind M. Shah with Dr. D. S. Munagekar as alternate.

BOMBAY WEST SUBURBAN BRANCH—A monthly general meeting was held on 17-1-60 with the President Dr. S. C. Sheth in the chair, 30 members being present. Dr. S. T. Thakar demonstrated a cardiac case of Eisenmenger's Syndrome. Dr. P. M. Dalal spoke on Hemiplegia—Clinical and Angiographic Study illustrated with slides and skiagrams. Vice-President Dr. A. M. Shah reported on the discussions and debates at Indore during the All-India Medical Conference and meetings of the Working Committee and Central Council of I.M.A. The Hony. Secretary Dr. M. D. Panchamia reported that the Branch President Dr. S. C. Sheth had been elected and installed as president of the Bombay Territorial Branch on 16-1-60. The following films were shown, Life of Moulds, Resection of Uretero-pelvic Junction and Pneumonectomy in Tuberculosis.

A meeting of the Managing Committee was held on 17-1-60. It was decided to undertake an intensive drive for enrolment of members during February and March. Other routine work was transacted.

A monthly general meeting was held on 14-2-60. Dr. S. C. Sheth presided, more than 40 members attending. Dr. C. S. Thakar, A. M. Shah, M. D. Panchamia and S. J. Bhatt were elected to the Territorial Council. Dr. D. J. Jussawala spoke on the Problem of Early Diagnosis of Cancer. The following films were shown by courtesy of the Indian Cancer Society and U.S.I.S.; Problem of Early Diagnosis and Horisons of Hope, both relating to cancer. Dr. S. M. Pradhan gave a talk on important places in Indore and surroundings illustrated with colour photographs.

A meeting of the Managing Committee was held on the same date when distribution of areas for intensive enrolment drive was made and other routine business transacted.

BANKURA BRANCH—The annual general meeting of the branch was held on 26-2-60. Fourteen members were present. Office-bearers for 1959-60 were elected with Dr. R. Banerjee as president, Dr. A. Bhattacharyya as vice-president, Dr. L. M. Ganguly as hony. secretary and Dr. P. Sen Gupta as member of the Central Council.

BHATINDA BRANCH—A meeting of the branch was held on 16-2-60. Dr. Jagdish Singh, Director of Health Services, gave a talk on Acute Abdomen.

CALCUTTA BRANCH—The following office-bearers for 1959-60 have been elected: President Maj. K. K. Ghosh; Vice-President—Dr. N. C. Banerjee, Dr. B. K. Datta Chaudhuri, Dr. N. B. Roy; Hony. Secretary—Dr. M. K. Nandi; Hony. Asst. Secretaries—Dr. R. Mukherjee, Dr. A. K. Roy, Dr. D. N. Roy Choudhury; Hony. Treasurer—Lt. Col. R. K. Chakraborty.

The annual report of the Branch for 1958-59 shows that membership at the beginning and end of the year stood at 1520 and 1608 respectively. In addition to the annual general meeting, special meetings held were 2. The Executive Committee met 15 times. Some notable events of the year include: Introduction of cultural programmes, establishment of Col. Calvert Memorial Oration Fund; Publication of memorandum and recommendations on school health programme; Arrangement for employment of medical men of this state in other states and Reception to several visiting scientists and medical men.

The following committees and sub-committees did useful work during the year; doctors' welfare sub-committee; scientific sub-committee; library sub-committee; ethical sub-committee; R. S. I. Committee; subcommitee on medical education; building sub-committee; social and entertainment sub-committee; public relation

sub-committee; sub-committee on hospital services; science, culture and humanity sub-committee and sub-committee to look after service condition of Corporation doctors.

CHIRALA BRANCH—A meeting was held on 27-2-60 with Dr. T. V. Swamy in the chair. The accounts for the previous year were presented Dr. Y. Ramachandra-reddi gave a lecture on Fluid and Electrolyte Therapy in Paediatric Practice. A dinner closed the proceedings.

CHANDERNAGAR BRANCH—The 2nd annual general meeting was held on 14-12-59. Office-bearers for 1959-60 were elected with Dr. M. L. Rakhit as president, Dr. S. C. Roy as vice-president, Dr. S. Sett as hony. secretary ,Dr. A. Ghosh as hony. treasurer. The 1st executive committee meeting was held on 11-2-60. A resolution was passed regarding the procurement of a piece of land on long lease for construction of a building for the branch. The Mayor of Chandernagar had already verbally agreed to consider the matter.

DHANBAD BRANCH—The branch observed a varied programme in connection with the Bihar Health Week from February 29 to March 6. A local Health Week Committee formed with Sri R. P. Khanna, I.A.S. as chairman and Dr. R. Mukherjee as secretary in charge. More than 1,000 boys and girls of the Dhanbad Bazar Gymnasium gave a fine display of physical feats. Prizes in the form of cups were presented by several donors to the 'Dhanbad Sri' in three classes.

Meetings in the town and adjoining areas were held. A district medical conference and a course of refresher lectures were inaugurated by Major H. C. Mallik and presided over by Dr. M. S. Kapur. The refresher course lectures were delivered by Dr. B. Mukhopadhyaya.

A Baby Receiving Prize at a Baby Show at Bhulanbararee Colliery

Two baby shows were held and prizes to winning babies and several hundred consolation prizes were given away. A sanitation and vaccination drive was carried out. Several films on health subjects were exhibited.

DHAR BRANCH—At a meeting held on 6-10-59 the following office-bearers for 1959-60 were elected : President—Dr. Hisamuddin; Hony. Secretary—Dr. P. Sharma; Jt.-Secretary—Dr. K. K. Srivastava; Treasurer—Dr. S. P. Nigam.

Dr. D. P. Srivastava and Dr. K. K. Srivastava presented clinical cases of Pulmonary Tuberculosis and congestive Heart Failure.

DHARWAR BRANCH—A meeting was held on 18-10-59 when Dr. K. M. Kale handed over charge as president to Dr. A. A. Kulakarni.

A monthly meeting was held on 17-12-59, Dr. A. A. Kulakarni prtsiding. An adjourned metting was held on same date with Dr. B. H. Kamalapur in the chair. Dr. S. M. Kuradikeri gave a case report about a female with a nipple bleeding on squeezing. Dr. B. H. Kamalapur gave a report of ectopic gestation.

A meeting was held on 31-1-60, Dr. Kulakarni presiding. Dr. S. M. Kuradikeri reported a few cases of internal bleeding.

A monthly meeting was held on 28-2-60 when a resolution was adopted to co-operate with the district authorities regarding observance of World Health Day. Dr. H. V. Upadhye read a paper on Medical Face and Tongue.

An adjourned meeting was held on 17-3-60, Dr. A. K. Kulakarni presiding. A resolution was passed inviting the next State Council to meet at Dharwar.

DIBRUGARH BRANCH—A special meeting was held on 30-3-60 with members and other doctors, when several resolutions were passed suggesting ways and means to make the next All-India Medical Conference to be held in Assam a success. In another resolution the Vice-Chancellor, Gauhati University was requested to take necessary measures in consultation with Faculty of Medicine to prevent the recurrence of irregularities in holding the MBBS examination and publication of their results, as this had been found to affect the morale of the medical students and causing inconvenience to the staff of the Assam Medical College.

FAIZABAD BRANCH—A social function and tea was arranged on 19-3-60. Members, their wives/husbands and children were invited. A programme of games, dances and music was gone through. Prizes were awarded to winners.

FARRUKHABAD-FATEGARH BRANCH—The annual function of the branch was held on 7-3-60 with Dr. Mrs. C. H. Lal as President. Dr. H. N. Shivapuri, President, I.M.A., and Dr. Bhola Nath, President, U. P. State Branch were the chief guests. After the National Anthem by student nurses, and introduction, welcome speeches and the annual report, Dr. Bhola Nath spoke on the activities of IMA and the urgency of raising funds for the central Building. Dr. H. N. Shivapuri also gave his views on these matters and the necessity of raising membership of I.M.A.

A paper by Dr. T. P. Banerji was read by Dr. R. T. Dube. Dr. C. V. Chaturvedi spoke on hormones. The student-nurses gave a dance recital. Dr. Mrs. Lal gave them Rs. 25/- as a personal contribution. Some films of medical interest were shown. The function came to a close with a dinner.

GHUGUDANGA BRANCH—The monthly general meeting of the branch was held on 31-1-60. Dr. S. S. Sarkar presided. Twelve members and a few guests were present. Delegates were elected to the next Bengal Provincial Medical Conference at Baruipur. The branch secretary gave a short review of the 36th All India Medical Conference and the proceedings of the Central Council which he attended. Two medical films on (1) Prevention of Surgical Haemorrhage, (2) Some Aspects of Muscle Action were shown to the members.

The monthly general meeting was held on 28-2-60. Eight members were present. Dr. S. N. De presided. The routine business was transacted.

JABALPUR BRANCH—Dr. G. S. Wagle, President, M. P. State Branch, visited Jabalpur on 10-2-60. He was taken to Barela, a village about 10 miles away where the branch had been running an Antenatal Clinic and Child Welfare Centre for the last 1½ years. Dr. Wagle appreciated the work very much. In the evening a clinical meeting was held. Sixty members were present. Dr. Wagle presided. Some useful discussion of a number of cases took place. A dinner was arranged at night, attended by 60 members. On behalf of the members a cheque for Rs. 301/- towards the Central Building fund was presented. Dr. Wagle appealed to the members to enlist more members and to contribute liberally towards the Central Building Fund. The president and secretary of the branch thanked Dr. Wagle for his visit.

KADI-KALOL BRANCH—A joint meeting with the Vijapur branch was held at Ahmedabad Civil Hospital. Dr. G. K. Karandikar, Dean of the B. J. Medical College, Ahmedabad addressed the members. The Dean and heads of departments including Drs. Naik, P. K. Shah, S. B.

Anklesaria, S. Shah, Choksey, K. P. Shah showed different types of cases. The members were shown round the college and hospital. The visit greatly benefited the members of the two branches, most of whom were general practitioners.

KARIMNAGAR BRANCH—A monthly meeting was held on 20-3-60 with the president Dr. Gulam Nabi in the Chair. He welcomed back Dr. Kupfernagel, Vice-president, and Dr. Surendra Mohan after long absence. Dr. Gulam Nabi then presented 4 cases of abdominal surgery in which the findings of operations were different from the clinical diagnosis. Dr. M. B. Srinivasan presented a case of Meningococcal Meningitis. The meeting terminated with a dinner by the joint hosts Drs. Habeebur-rasul and Md. Afzal Ali.

KANPUR BRANCH—World Health Day was celebrated on 7-4-60 at the Temple of Service. Malaria Eradication—a World Challenge was discussed by Dr. R. S. Agarwal, Dy. Director, M.E.P.U.P., Dr. J. K. Dhawan and Sq/Lr. Ramanam. This was followed by a further discussion by Dr. S. N. Saxena, Naveri Chandra, and Satwant Singh. A film on antimalaria operations was shown.

K.G.F. BRANCH—A clinical meeting was held on 18-3-60. Dr. B. Venugopal presided, 13 members being present. Dr. H. A. Nagaraja Rao presented a case of Tumour Abdomen. Dr. G. V. Venkatasetty presented a case of Agenesis of Lung on the right side. Dr. M. Punyamurthy presented a case of mitral stenosis with Aortic Regurgitation.

A meeting was held on 11-4-60, when Dr. M. S. Mekhri spoke on the Diseases of the Eye in Childhood and their Management. Nineteen members and 14 guests were present. Dr. Mekhri and his colleagues of the Mysore State Ophthalmologicol Society were entertained to a dinner, at night.

MADHUPUR BRANCH—A varied programme in celebration of Bihar Health Week was gone through from 29-2-60 to 6-3-60. Posters were exhibited, leaflets distributed, lectures arranged, sanitation and cleanliness drive by students organised, sports by students held and mass inoculation and vaccinations done and health examinations of students conducted.

MEERUT BRANCH—A meeting was held on 10-2-60. Dr. A. S. Maheshwari presided, 25 members being present. Dr. R. L. Goyal was elected library secretary in the vacancy caused by the sad death of Dr. K. Datt. Drs. J. L. Caroli, K. G. Mithal and K. L. Chopra who had attended in Delhi the joint annual conference 1960 of the Association of Paediatricians of India, Association of Physicians of India, the Cardiological Society of India, the Neurological Society of India, and the Indian Association for Chest Diseases, gave detailed impressions of these conferences.

A meeting was held on 3-3-60, with the president in the Chair. Forty members were present, the guests numbering four were U.S.S.R. doctors headed by Dr. A. Libov. Dr. O. P. Goel was elected delegate of the branch to the 14th General Assembly of W.M.A. to be held in Berlin in September 1960. Dr. J. L. Caroli was elected delegate to the 128th annual meeting of the B.M.A.

The president then introduced Dr. A. Liboy, at present Professor of Paediatrics in Kalawati Saran Children's Hospital. Dr. Libov spoke elaborately on medicine as practised in U.S.S.R. There was a lively discussion. Tea and light refreshments were served.

MONGHYR BRANCH—An ordinary meeting was held on 2-3-60 Dr. K. P. Mitra, president, was in the chair. Forty members attended. Dr. S. M. Ghoshal spoke on Infant Feeding and on the objects of the Indian Medical Association.

MUZAFFARNAGAR BRANCH—The following condolence resolution was passed at a meeting (date not mentioned) on the sad demise of Dr. Mrs. G. W. Tewari.

"Bowing to His will, we pray to the Almighty judge of Doings to bestow perpetual peace to the departed soul and his kindly light to the bereaved family to enable them to face the ordeal caused by the void beyond redress".

MIDNAPORE BRANCH—The world Health Day was celebrated on 7-4-60 with the co-operation of the Malaria Co-operation and Publicity Dept., Midnapur. Sri A. K. Sen, I.A.S., district magistrate, presided. Dr. A. K. Mukherjee, A.D.H.O., Midnapur, spoke on Malaria Eradication—A World Challenge. Dr. D. S. Roy, president, I.M.A., Midnapur, Prof. A. C. Sen, Sri M. N. Mahato, Chairman, District Board, Midnapur, Dr. Pramanik, Assistant Chief Medical Officer, Midnapur, also spoke on this occasion.

MORVI BRANCH—A meeting of the branch was held on 7-4-60, to mourn the death of Dr. T. B. Jadeja, president of the Morvi Municipality. A meeting was held on 11-4-60. Dr. C. T. Mehta presided. A welcome address was given to Dr. S. V. Bakshi who later addressed the meeting.

MADHYA PRADESH BRANCH—Dr. Wagle, the president of the branch made an extensive tour in the branches from 31-1-60 to 15-2-60. Everywhere he met medical men in independent practice and in government service. He visited Shajapur, Guna, Shivpuri, Jabalpur, Katni, Raipur, Bhilai, Durg, Bilaspur, Satna, Rewa and Panna. He was able to start local branches at some places and his visit also gave an impetus to the formation of many new branches. He advised to hold monthly meetings regularly and discuss, in addition to the normal work, clinical subjects. The president also appealed to the branches to observe the World Health Day, by holding meetings and lectures on 7-4-60. In some of the branches he was impressed with their humanitarian work.

NORTH LAKHIMPUR BRANCH—A meeting was held on 10-4-60. Five members were present. Members were apprised of necessary information about the formation of a Reception Committee for the ensuing All India Medical Conference to be held at Gauhati. Letters and circulars were attended to. According to the members, the subsidy of the medical officers of the subsidiary dispensaries under the Local Self Government should be raised from Rs. 80/- to Rs. 200/-.

NILGIRI DISTRICT BRANCH—A meeting was held on 19-12-59 with Dr. Mrs. M. C. Mathew in the chair. Dr. Miss K. Manonmani gave a lecture on tuberculosis in infancy and childhood. Dr. J. Viswanathan presented two paediatric cases. A discussion followed.

A meeting was held on 20-2-60, Capt. N. J. DeLamose presiding. Dr. N. Gopalakrishnan delivered a lecture on ophthalmic manifestations in systemic diseases.

A meeting under the presidency of Dr. V. Kuruvilla was held on 19-3-60. Dr. J. Viswanathan gave a lecture on X-ray, its value in diagnosis. Maj. D. S. Rastogi gave a case report of Kimmelstiel-Wilson Syndrome.

NUNGI-BATANAGAR BRANCH—The annual general meeting was held on 12-12-59, Dr. A. T. Paul presiding. The accounts for 1958-59 were presented and adopted. The following office-bearers for 1959-60 were elected: President—Dr. A. T. Paul; Vice-President—Dr. N. K. Mittra; Secretarey and Treasurer—Dr. A. N. Roy. Dr. A. N. Roy was elected to the Central Council.

Dr. D. Ghosh discussed the State Insurance Scheme for medical practitioners.

A meeting was held on 28-3-60. Dr. A. T. Paul presided. Dr. A. N. Roy discussed the resolutions passed at the All-India Medical Conference at Indore. The problem of rural health with special reference to local conditions were also discussed. Dr. A. T. Paul, A. B. Basu and G. Kar agreed to give voluntary services for giving smallpox vaccination and cholera inoculation whenever required.

PANDUA THANA BRANCH—The 11th annual conference of the branch was held on 20-3-60. Major H. K. Indra, Principal, R. G. Kar Medical College, presided.

Col. M. Junglewallah, Director, All India Institute of Hygiene and Public Health, was the chief guest. In the discussion of scientific subjects the following took part: Dr. J. Bose, Ophthalmic Surgeon, Dr. D. N. Sen Gupta of All India Institute of Hygiene and Public Health, Dr. A. K. Sarkar of local branch, the president and the chief guest and Dr. S. Biswas, C.M.O. of Hooghly. Dr. N. Singha Roy read a welcome address.

Office-bearers for 1959-60 were elected with Dr. N. N. Singha Roy as president, Dr. P. C. Ghosh and Dr. S. Ghosal as vice-presidents, Dr. B. Roy as secretary, Dr. B. Sinha and Dr. J. K. Chandra as joint secretaries, Dr. P. Pal as treasurer.

RAIGARH BRANCH—A meeting was held on 16-3-60 under the chairmanship of Dr. Miss C. Saigall to chalk out the programme of the World Health Week commencing 7-4-60. Seven members were present. The programme as chalked out included spraying oil and dusting insecticide as a part of malaria eradication, investigation of breeding places for mosquitoes, the organisation of exhibition on malaria eradication, a public meeting and cinema shows. The civil surgeon was requested to obtain some funds from the Government. The President of the Raigarh Municipality was requested to arrange for the eradication programme and to sanction the expenses to be incurred for the exhibition.

RAIPUR BRANCH—A meeting was held on 4-1-60, Dr. R. K. Tiwary spoke on Acute Abdomen, Diff. Diagnosis and Management. On 12-2-60, Dr. Wagle, president, M. P. State Branch paid a visit to the branch and addressed the members. On 13-2-60, the annual dinner was held and Dr. Wagle was the chief guest. On 26-3-60, a meeting of the working committee of XI M.P. Prov. Medical Conference was held. Raipur branch had already donated Rs. 180/- towards the Central Building Fund, and was making fresh collections for same. The membership strength of the branch is 36.

RAJAHMUNDRY BRANCH—The annual function was celebrated on 19-3-60, Dr. Radhakrishna Reddy presiding. Dr. P. S. Giri, President, Andhra Pradesh Branch was present. After the secretary's report, the scientific session started. Dr. Mrs. Satyabhama Reddy spoke on disorders of menstruation. Dr. D. Gopalaswamy spoke on infantile convulsions. After a short break for tea a symposium on surgical emergencies of abdomen in general practice was held. Opened by Dr. M. Imaduddin, participants were Dr. V. Venkataraju and Dr. P. Ramamurty.

The function was largely attended by East and West Godavari and Kistna districts. Over a hundred doctors attended. Dr. Giri addressed the audience on the present position of the I.M.A. and exhorted on all doctors to join the Association. The function came to a close with a dinner.

RAMGARH CANTT. BRANCH—A meeting of the branch was held on 7-4-60, to observe the World Health Day. Dr. D. M. Roy, Malaria Officer, Coal Mines Welfare Organisation, gave a talk on Malaria Eradication—a World Challenge.

SALEM BRANCH—A meeting of the branch was held on 12-12-59, with Dr. Sundaram presiding. Dr. H. S. Bhat, associate professor of surgery, Christian Medical Colltge, Vellore, spoke on Challenge of Chronicity in Urinary Infections.

A special meeting was held on 21-1-60 to felicitate Dr. M. B. Juvaraj Singh on his reaching the 60th year. Dr. Sundaram presided. Sri D. P. Karmarkar, Union Health Minister, Sri Manikvelu Naickar, the State Health Minister and Sri S. V. Ramasamy, the Dy. Minister for Railways, were guests of honour at the Dinner. A Souvenir was presented by the Minister for Railways to Dr. Singh on behalf of the Association. The question of quackery and bogus medical practice were discussed with the Ministers.

SIMDEGA BRANCH—The branch observed the Health Week from 29-2-60 to 6-3-60. Prabhat pheri, Association flag hoisting, parades and drill by N.C.C. and A.C.C. Cadet, boys and girls, sports, health exhibition film shows were among the varied programmes. Prizes for best boy and girl cadets, cleanest house, cleanest students' hostel, cleanest villages were given, as also a prize to the best essay writeen on "Health is Wealth". About 1,500 students were medically examined and about 4,500 were inoculated against typhoid.

ULUBERIA BRANCH—A meeting of the branch was held on 22-2-60. Nine members were present. Dr. J. Banerjee, ex-C.S., Howrah, gave his impressions on Study cum Pleasure tour arranged by I.M.A. last time. Dr. Banerjee described the details of the tour which proved educative.

UNNAO BRANCH—A monthly meeting was held on 23-1-60. Dr. K. D. Jain presided, 8 members were present. Dr. D. J. Srivastava initiated a discussion on Intestinal Obstructions. The Shive Adahar Singh, the host gave a tea party to the members present.

U. P. STATE BRANCH—The 25th annual meeting of the Branch Council was held at Meerut on 26-10-59. The President Dr. Bhola Nath was in the chair, members present numbering 39.

The secretary's annual report for 1958-59, as per corrections made by the Working Committee, the audited annual accounts for 1958-59 and the budget for 1959-60 were passed. The branches having already decided Dr. Bhola Nath as President and Dr. S. P. Gupta, Dr. Km. C. Rohatgi and Dr. S. N. Saxena as Vice-Presidents, the following office-bearers for 1959-60 were elected:

Hony. State Secretary—Dr. R. N. Gupta; Hony. State Treasurer—Dr. M. M. S. Siddhu; Hq. Jt. Secretary—Dr. B. N. Mehrotra; Other Jt. Secretaries—Dr. Satwant Singh and Dr. R. N. Moitra; Representatives to Central Working Committee—Dr. Bhola Nath and Dr. R. N. Gupta with Dr. Jagmohan Singh and Dr. B. S. Mehta as alternates.

A resolution was adopted delegating all powers except that of altering, changing or amending the Memorandum, Rules and Bye-laws to the State Branch Working Committee till the next annual meeting of the Council.

The invitation of Vanarasi Branch for the next annual state conference was accepted.

The second meeting of the Working Committee for 1959-60 was held on 10-1-60. Dr. Bhola Nath, President, was in the chair. Twelve members were present.

Deep sense of sorrow was recorded at the sad deaths of Drs. M. P. Srivastava, Allahabad; R. D. Maheshwari, Meerut; P. Govil, Meerut; B. S. Rathke, Dehra Dun. A sub-committee with Dr. M. M. S. Siddhu was formed to formulate a health plan for the corporation in KAVAL towns.

Regarding Mathura branch's resolution sent direct to Government bypassing the State Branch, the Working Committee felt the State branch was put in an awkward position thereby. The Mathura branch was advised not to send any communication direct to government in future. It was decided in this connection that the IMA was willing to offer voluntary services of its members provided full facilities for it were given.

Several circulars and letters were considered and appropriate action taken. It was decided to take a deputation to the Minister of Health, U. P. in connection with the All-India Health Week celebrations and a sub-committee of three members was formed for the purpose. It was decided that copies of the Kanpur Scheme of health insurance be circulated to members of the Working Committee to study the same. Dr. Miss G. B. Kabraji's scheme named Temple for Health and Wealth was considered and it was decided to circulate it to branches for eliciting opinion.

The committee was gratified to learn that an antibiotics factory was to be started at Dehra Dun district and thanked the Government, the Chief Minister and Health Minister of U. P. for their efforts in this direction.

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